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THE MILITARY SURVIVOR BENEFIT PLAN:
HOW MUCH DOES IT BENEFIT THE RETIREE

THESIS

AFIT/GOR/SM/79D-9

Thomas L. Wade
Captain USAF

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⑥ THE MILITARY SURVIVOR BENEFIT
PLAN: HOW MUCH DOES IT
BENEFIT THE RETIREE?

⑨ Master's THESIS, — ⑫ 224

Presented to the Faculty of the School of Engineering
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By

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Preface

The analysis presented in this report represents an attempt in clarifying the basic features of the military Survivor Benefit Plan. The military member nearing retirement from active service is faced with a landmark decision regarding his or her participation in the Survivor Benefit Plan. This decision affects not only the member's life, but also the lives of loved ones. This decision should be based on as much information as possible. My efforts will have been successful if a better understanding of the plan is achieved.

In an effort to provide a useful document as opposed to a technical one, I have tried to write this report in as plain English to the maximum possible extent. However, the computer model is an integral part of this study and as such is included.

I would like to express sincere appreciation to my thesis advisor, Colonel Charles R. Margenthaler, who suggested the approach to this study and who provided much valuable insight in the ensuing developments. My thanks to Dr. Albert H. Moore for reviewing this report and offering his constructive criticism. I also wish to express my gratitude to Captains Michael A. Schiefer and Greg S. Sensiba for their expert advise regarding computer programming.

Thomas L. Wade

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List of Acronyms

AMW: Average Monthly Wage
CBPO: Consolidated Base Personnel Office
CDC: Control Data Corporation
CPI: Consumer Price Index
DIC: Dependency and Indemnity Compensation
FDIC: Federal Deposit Insurance Corporation
FORTRAN: Formula Translation
OASI: Old Age and Survivor Insurance
PIA: Primary Insurance Amount
PPV: Present Purchasing Value
RPV: Real Present Value
RSFPP: Retired Serviceman's Family Protection Plan
SBP: Survivor Benefit Plan
SSA: Social Security Administration
SSN: Social Security Number
USCOA: Uniformed Services Contingency Option Act

Abstract

↓ This study was conducted to examine the military Survivor Benefit Plan and the extent of its costs and benefits. Currently, the participation rate in the plan is extremely low among military retirees. Past improvements to the plan have failed to increase participation. Other proposed revisions to the plan are scheduled to go before Congress; some of these proposed changes have already failed to pass Congress a number of times before.

Initially, this study looks at the basic elements of the Survivor Benefit Plan. Next, methods of analyzing the plan are investigated with emphasis on the further development of an already existing computer model. Private insurance plans are then studied as possible alternatives to the Survivor Benefit Plan. As a conclusion, the Survivor Benefit Plan and insurance plans are compared and recommendations are offered.

I. Introduction

For over seven years now, retiring military members have been faced with the decision of whether to participate in the Survivor Benefit Plan (SBP). The decision is made difficult due to the fact that many retiring members themselves do not completely understand the SBP and is further compounded by retirement counselors who are confronted with the monumental task of explaining various SBP components, options, costs, and benefits. If members do participate in the SBP, they forfeit a portion of their military retired checks every month to pay for it. About half of the people who retire choose not to participate, and the rate of participation is declining (Ref 20:10). Nearly 60 percent of officers questioned in a 1977 Air Force survey said that they had not received counseling on survivor benefits. Approximately 50 percent of enlisted people said that they had not been counseled either (Ref 17:4). Regardless of whether the SBP is all that it is purported to be, the above suggests that help is needed to disseminate information to military members regarding the SBP.

The research problem addressed in this thesis is how much benefit is acquired by a retiring military member who participates in the SBP. No definitive answer to the research problem can be achieved due to the unique situation

of each member. However, the approach in this study should give the reader significant insights into the problem and define certain boundaries within which a valid judgement of the SBP can be made.

Purposes

The purpose of this effort is to conduct a research of the SBP in the following areas:

(1) Provide an analysis of the SBP that would enable military members to make informed decisions regarding their participation in the SBP. Even though the SBP was passed in 1972, few military members really understand it or the options available to them upon retirement. Clarification of the features of the SBP is needed to allow the military member to make an informed decision regarding the degree of participation in the program.

(2) Develop a computer program to aid counselors in explaining the SBP to perspective retirees. A computer program is needed to furnish the capability of providing immediate information to individual members regarding their specific needs and desirable degree of participation.

(3) Investigate alternative retirement plans offered by private insurance companies. An examination of programs offered by private insurance companies not only enables military members the luxury of making a choice, but also allows them to better evaluate the actual benefits of the SBP.

Scope and Limitations

The SBP directive is long and complicated. There are many detailed regulations that pertain to specific individual cases. This study does not analyze every phase of the SBP, but only the basic elements of the plan. The basic elements are as follows:

(1) Cost - $2\frac{1}{2}$ percent of the first \$300 of monthly retired pay plus 10 percent of the remainder.

(2) Automatic survivor benefit of 55 percent of retired pay unless the retiree elects not to participate or participate at a reduced level.

(a) Adjusted according to Consumer Price Index (CPI).

(b) Integrated with social security survivor benefits attributable to military service for a surviving spouse with one child and for a surviving spouse over age 62.

(c) When Dependency and Indemnity Compensation (DIC) is payable to a surviving spouse it will be supplemented by a Defense payment to attain the desired 55 percent level.

(d) Guarantees that no surviving spouse of a retirement eligible member dying on active duty receives less than a surviving spouse of a similar member (same grade and length of service) dying in retirement.

(e) Surviving spouse of retirees will be guaranteed a minimum of about \$2,340 annually.

The SBP is not a static entity. This study considers key changes as of September 30, 1979. The important provisions already enacted and the revisions being contemplated by Congress are mentioned.

The computer model will be designed to handle the majority of the cases. Treatment of unique specific cases will not be included. The ultimate goal of the computer model is to streamline the retirement counselor's efforts in explaining the retiree's benefits derived from the SBP.

There are many insurance companies that offer a broad spectrum of retirement and savings plans; only a limited number of the more interesting cases are researched. A sufficient number of insurance programs are investigated to facilitate a decision whether it is worthwhile for the military member to look into private insurance programs any further.

Development

Chapter II considers the basic concepts of the SBP and its associated problem areas. Chapter II proposes a computer program model to streamline the SBP portion of the retiree's out-processing. Chapter IV analyzes private insurance plans and presents their advantages and disadvantages. Chapter V offers conclusions and recommendations.

II. What is the Survivor Benefit Plan

This chapter briefly traces military survivor programs from their early beginnings up to the current SBP. Following the history of the SBP, a short overview of it is presented along with a more detailed analysis of the basic elements of the SBP. By using examples of costs and benefits and developing tables and graphs the goal is to provide a better understanding of the SBP. Next, revisions and proposed congressional revisions to the SBP are studied. In the last section, the affect of taxes upon the SBP is examined.

Background

Through the years survivor benefits have been provided to active duty military personnel. Prior to 1953, retired members were entitled to extremely limited survivor benefits. Such was recognized by a 1953 Senate report that stated:

"Surviving dependents of deceased retired personnel of the uniformed services are not entitled to any benefits from the Government except those provided by the Veterans' Administration. The maximum pension which a widow of a retired member of the Armed Forces could receive from the Veterans' Administration, if she had no minor children, would be \$75 a month providing her husband died from a service-connected disability incurred in time of war, or \$60 a month if he died from a service-connected disability incurred in time of peace. The widow of a retired member would receive but \$48 a month if her husband had a

wartime disability but that disability was not the cause of his death, and then only if her income was less than \$1,400 a year. Dependent children add to these benefits which ceases when the children become 18 years of age." (Ref 1:2)

The Uniformed Services Contingency Option Act (USCOA) was passed in 1953. The main purpose of USCOA was to allow retired military members to insure that their spouses and eligible children would be entitled to a survivor annuity after the member's death. Under this plan, participating members had their retired pay reduced by an appropriate amount to provide their beneficiaries an annuity of one-half, one-fourth, or one-eighth of their initial retired pay. To make USDOA self-supporting, the costs were based on the actuarial costs of the benefits. The amount of the reduction to the member's retired pay was determined on the basis of the member's age, age of dependents at time of the member's retirement, by whether or not retirement was due to disability, and by the annuity option and amount of annuity elected. "The amount of the annuity was based on the member's initial reduced pay and remained frozen at that level as did the amount of reduction in the member's retired pay." (Ref 9:3)

The USCOA was changed to the Retired Serviceman's Family Protection Plan (RSFPP) in 1961. After a number of modifications, the RSFPP enabled the member to elect an annuity based on full retired pay instead of reduced retired pay. The RSFPP also allowed the member to elect an

annuity based on full retired pay instead of reduced retired pay. The RSFPP also allowed the member to elect an annuity of a specified amount provided it was not more than 50 percent nor less than 12.5 percent of retired pay. A drawback to the RSFPP was that the amount of annuity and amount of reduction to retired pay remained fixed from the time of retirement, even though the Consumer Price Index (CPI), an automatic adjustment mechanism for retired pay, came into effect in 1963.

Despite the many modifications to RSFPP, the plan was never well received and the participation rate never exceeded 15 percent (Ref 21:4). The low rate of participation was the primary reason for the creation of the SBP.

Congress enacted the SBP as Public Law 92-425, September 21, 1972. The purpose of this bill was to:

"(1) Establish a new system of survivor benefits for survivors of present and future military retirees and active duty members who are retirement eligible;

(2) Provide a program guaranteeing a minimum annual income of \$2,100 per year to current widows of military retirees." (Ref 29"3289)

By reducing member cost and protecting the benefits against inflation, it was hoped that the SBP would have a higher participation rate than previous plans. The guaranteed minimum annual income has been increased to \$2,340 and is more fully explained later in the report.

Basic Elements of the SBP

As was stated previously, this study limits itself to the basic elements of the SBP. In this chapter the basic elements are broken down and described in easy to comprehend terms. Further, the advantages and disadvantages of each element are presented and analyzed. Before embarking upon a detailed analysis of each element, an overview of the SBP is given. Most of the key features of the SBP are touched upon in the overview.

By electing to participate in the SBP, the military member agrees to a specified reduction in retired pay to provide a monthly annuity to an eligible beneficiary. An eligible beneficiary can be a widow or widower, a dependent child, or a person with an insurable interest in the retiree. The monthly benefit consists of 55 percent of the retiree's elected base amount. The base amount can range from a minimum of \$300.00 per month to a maximum of the entire monthly amount of retired pay. If retired pay is less than \$300.00 per month, the basic amount must be the full amount of retired pay.

The cost will vary depending on the retiree's beneficiary and the specific base amount elected. The monthly cost for spouse-only or child-only coverage is $2\frac{1}{2}$ percent of the first \$300.00 of the base amount plus 10 percent of the base amount in excess of \$300.00. For example, assume the member elected a base amount of \$500.00. The cost

would be calculated as follows:

$$\begin{array}{rcl} .025 \times \$300.00 & = & \$ 7.50 \\ .10 \times \$200.00 & = & + 20.00 \\ & & \hline & & \$27.50 \end{array}$$

The cost for spouse and children coverage is the same as spouse-only coverage plus an additional actuarial charge (less than one percent of the base amount) dependent upon the retiree's age, the age of the spouse, and the age of the youngest child. The additional actuarial charge terminates when the youngest child is no longer an eligible beneficiary: either at age 18 or at age 22 if the child is a full time student.

The monthly cost to provide coverage to a person with an insurable interest in the retiree is 10 percent of the member's full retired pay, plus an additional 5 percent of the member's full retired pay for each full 5 years that the beneficiary is younger than the retiree. However, the total cost may not exceed 40 percent of the member's retired pay. To better delineate a qualified beneficiary under the insurable interest clause, the following excerpt from Department of Defense Directive 1332.27 is given:

"A natural person with an insurable interest is any person who has a reasonable and lawful expectation of pecuniary benefit from the continued life of the participating member, or any individual having a reasonable and lawful basis, founded upon the relation of parties to each other, either pecuniary or of blood or affinity, to expect some benefit or advantage from the continuance of the life of the retired member An insurable

interest will be presumed to exist between the servicemember and parents, stepparents, grandparents, grandchildren, aunts, uncles, sisters, brothers, half sisters, half brothers, dependent or nondependent children or stepchildren, or any other persons more nearly related than cousins. If the designation is other than one of the above, proof of financial benefit from the continuance of life of the retiree will be required."

The annuity under the insurable interest clause is 55 percent of the retired pay of the retiree remaining after reduction of costs from such retired pay. The member has no option concerning the amount of the annuity under this provision (Ref 9:12). In other words, the member's entire retired pay is used as the base amount. To illustrate costs and benefits under this clause, suppose a member desires to provide survivor benefits to a sister who is 10 years younger. Given that the member's monthly retired pay is \$600.00, the calculations follow:

$$\begin{array}{lcl} \text{Base} & \times & \text{5\% for each 5 years} \\ \text{Amount} & \times & \text{beneficiary younger)} \\ & \times & (.10 + \text{Costs} \end{array} = \text{Monthly} \quad \text{EQ1}$$

$$\$600.00 \times (.10 + .10) = \$120.00$$

$$.55 \times (\text{Base Amount} - \text{Cost}) = \text{Monthly Benefit} \quad \text{EQ2}$$

$$.55 \times (\$600.00 - \$120.00) = \$264.00$$

In all cases, the costs and benefits are adjusted for increases in the CPI after retirement.

The SBP automatically provides a survivor an annuity of 55 percent of a member's retired pay unless the member elects otherwise. In other words, the member need take no

action if he or she desires the full retired pay to be used as the base amount.

There are three important cases that may reduce the benefits for the retiree's spouse to less than 55 percent of the base amount. First, the SBP benefit of a surviving spouse will be offset by the amount of social security benefits attributable solely to the retiree's military service. It should be noted that this offset will be instituted due solely to the fact that the surviving spouse is "entitled" to receive social security benefits due to the retiree's military service; whether these benefits are actually received, is of no consequence (Ref 12:11). Second, if the surviving spouse has just one child then 50 percent of the social security benefit attributable to the retiree's military service will be offset from the SBP annuity. This offset is instituted regardless of the surviving spouse's age. Third, the SBP annuity will be stopped if the surviving spouse remarries prior to age 60. If remarriage is terminated by death, annulment, or divorce, annuity payments resume, provided surviving spouse is not entitled to SBP payments based upon the terminated marriage.

A. Costs

There are basically four cases under which retirees' monthly costs for SBP participation are calculated: spouse-only, spouse and eligible children, children-only, and

person with insurable interest. The methods of cost determination for each case were given in the preceding section. To develop and examine several points about SBP costs, this section will utilize the spouse-only case. As previously demonstrated, the costs for this case are calculated by taking $2\frac{1}{2}$ percent of the first \$300.00 of the base amount (i.e. \$7.50) plus 10 percent of the base amount in excess of \$300.00. Without considering the time value of money, SBP costs can be calculated from the following equations:

$$\text{Cost} = (\$7.50 + .10(\text{BA} - \$300.00)) \quad \text{for } \text{BA} \geq 300 \quad \text{EQ3}$$

$$\text{Cost} = (0.025(\text{BA})) \quad \text{for } \text{BA} < 300 \quad \text{EQ4}$$

where BA is the base amount elected. The monthly benefit received by the widow will be 55 percent of the base amount unless the benefit is offset by the amount of social security payments to which the widow is entitled based solely on the retiree's military service. In the spouse-only case, where the widow's age is less than 62, the benefit can be determined by the following equation:

$$\text{Benefit} = (0.55(\text{BA})). \quad \text{EQ5}$$

Using a base amount of \$500.00 as an example, the monthly costs and benefits are calculated as follows:

$$\text{Cost} = (\$7.50 + .10(\$500.00 - \$300.00)) = \$27.50$$

$$\text{Benefit} = (0.55(\$500.00)) = \$275.00$$

1. Cost/Benefit Ratios

To examine the monthly cost/benefit ratio, the ratios for three base amounts (\$300, \$600, and \$900) are calculated.

BA = \$300

$$\frac{\text{Cost}}{\text{Benefit}} = \frac{7.50}{165.00} = .045+$$

BA = \$600

$$\frac{\text{Cost}}{\text{Benefit}} = \frac{37.50}{330.00} = .113+$$

BA = \$900

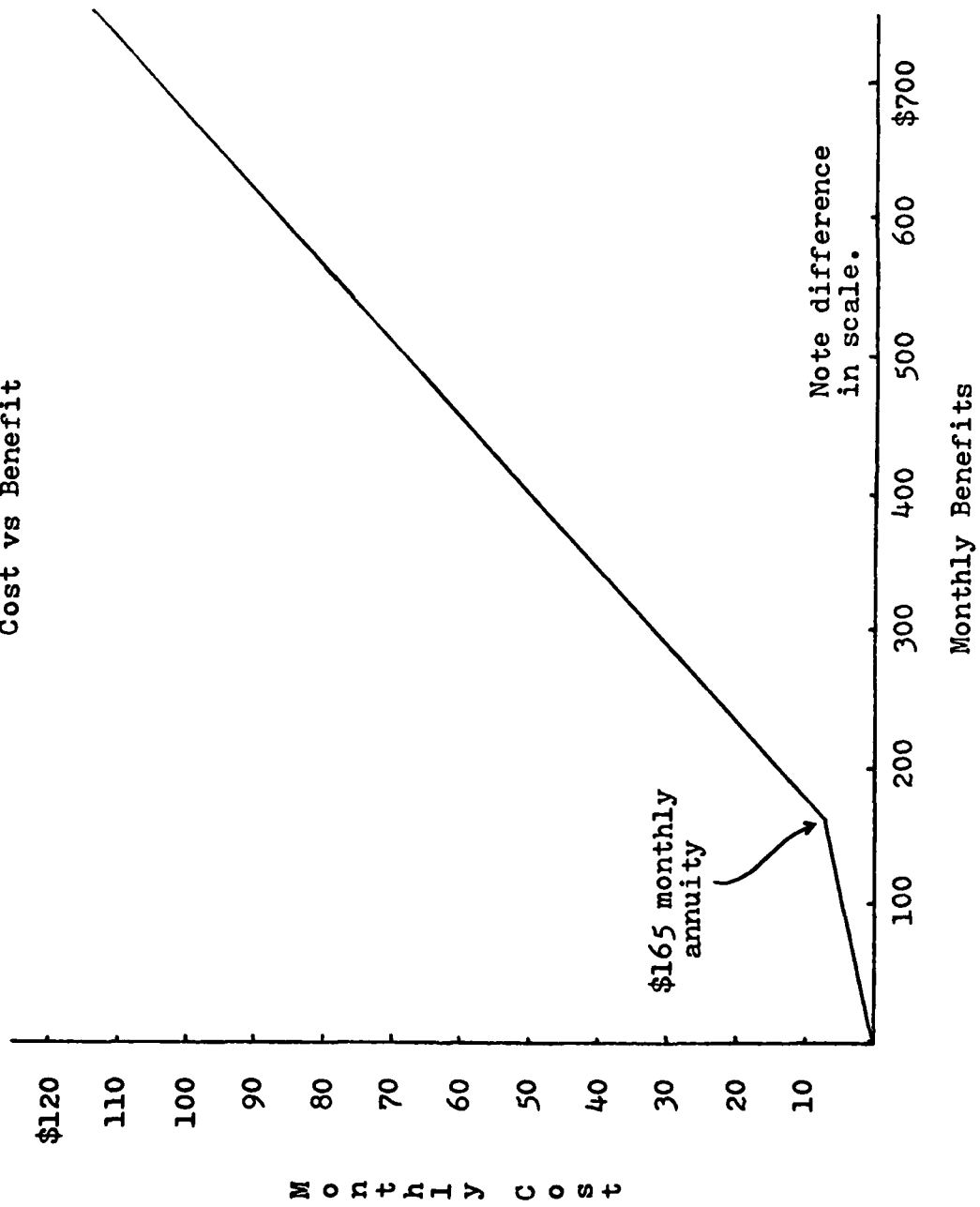
$$\frac{\text{Cost}}{\text{Benefit}} = \frac{67.50}{495.00} = .136+$$

Though the calculations in all three cases ignore the time value of money, social security offset, and income tax, the results show that the cost increases at a more rapid rate than does the benefit for any chosen base amount greater than the minimum base amount. GRAPHS 1 and 2 on the following two pages further illustrate the increase in the cost/benefit ratio. In GRAPH 1 the monthly cost is plotted against the monthly benefit, and in GRAPH 2 the cost/benefit ratio is plotted against the base amount.

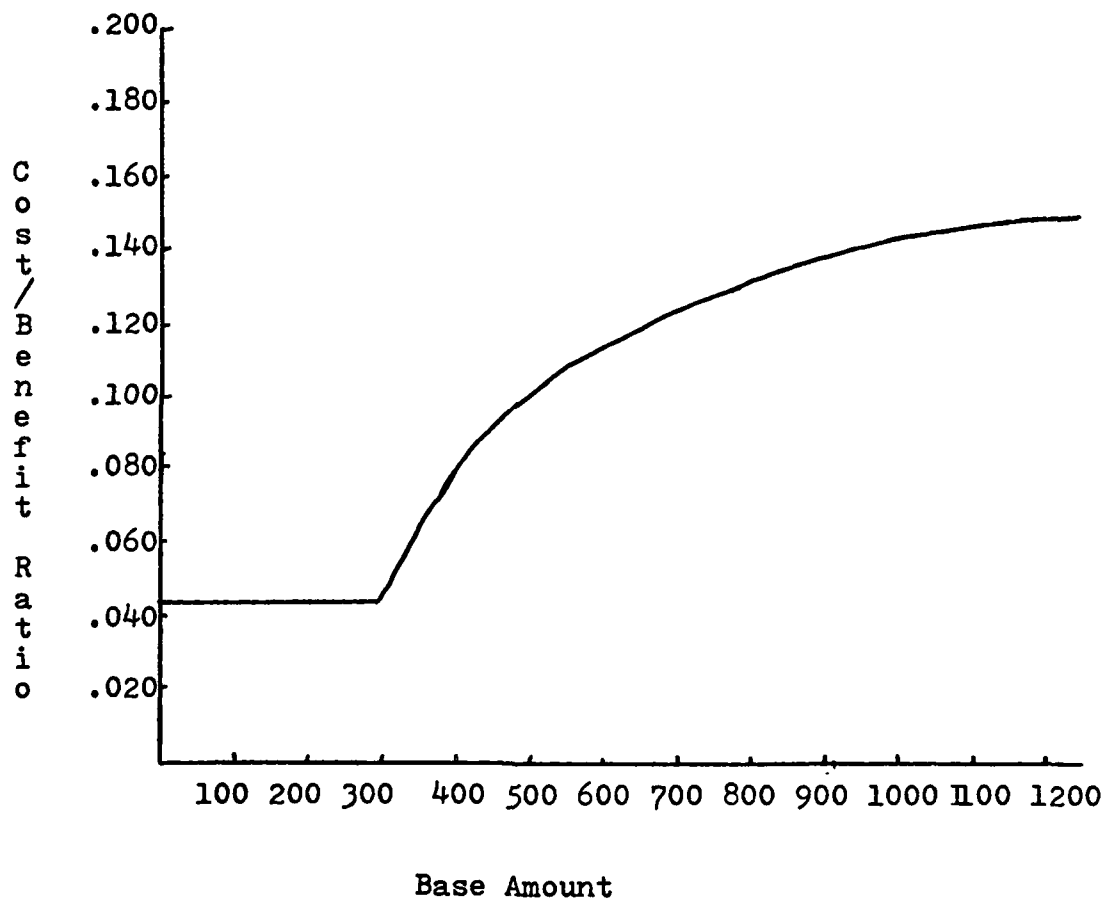
2. SBP Compared to Civil Service

A further consideration in calculating SBP costs would be a comparison with the method of calculating costs of the

GRAPH 1
Cost vs Benefit



GRAPH 2
Cost/Benefit Ratio
vs
Base Amount



civil service survivor benefit program. Under SBP, the CPI increase is applied to the full amount of retired pay (base amount) and the SBP reduction is recalculated based on the new amount of retired pay (base amount). Under the civil service system, the CPI increase is applied to the reduced retired annuity only and the survivor benefit reduction is not recomputed. To better illustrate the difference in charges, assume full participation with \$600.00 as the monthly retired pay. For both plans, the costs and retired annuities are calculated as follows:

Cost (using EQ3)

$$\$7.50 + .10(\$600.00 - \$300.00) = \$37.50$$

Retired Annuity (retired pay received after reduction
for survivor costs)

$$\$600.00 - 37.50 = \$562.50.$$

Assume a 5 percent CPI increase in retired pay.

Calculations for the SBP are as follows:

$$\$600.00 \times 1.05 = \$630.00 \text{ (new monthly retired pay before reduction for SBP costs)}$$

$$\$7.50 + .10(\$630.00 - \$300.00) = 40.50 \text{ (new cost)}$$

$$\$630.00 - 40.50 = \$589.50 \text{ (new retired annuity)}$$

Calculations for the civil service plan are as follows:

$$\$562.50 \times 1.05 = \$590.63 \text{ (new civil service retired annuity)}$$

Under the civil service plan, the CPI adjustment is applied to the retired payment that the civil service retiree actually receives. The civil service benefit cost is not recalculated, but an implied cost may be derived by comparing the \$590.63 payment to the payment received by a retired civil service employee who does not participate in the survivor benefit program.

$\$600.00 \times 1.05 = \630.00 (payment received by nonparticipating retired civil servant)

$\$630.00 - \$590.63 = \$39.37$ (implied cost).

A monthly cost differential of \$1.13 between military retired pay and civil service retired pay in the above example results from the CPI adjustment. This difference in charges is contrary to stated congressional intent (ref 9:10). Using \$300.00 as the base amount, Table 1 (next page) demonstrates how the military and civil service charges diverge over successive CPI increases.

3. Can SBP Costs be Recovered?

Another way of evaluating costs is to determine how long it would take the surviving spouse to recover the costs that were paid into the SBP by the member. The following examples clarify this method of evaluation.

Example 1 (Ref 22:22): A male member retires at age 40 and participates in the SBP at a base amount of \$600. At his death, the SBP would provide \$330 monthly to his

TABLE 1

SBP Cost vs Civil Service Survivor Costs
Due to CPI Increases

(1) <u>% Pay Increase</u>	(2) <u>Military Retired Pay*</u>	(3) <u>Cost for** SBP</u>	(4) <u>Military Reduced Annuity</u>	(5) <u>Civil Service Reduced Annuity***</u>	(6) <u>Civil Service Implied Cost</u>
Base(1972)	\$300.00	7.50	292.50	292.50	7.50
6.1	318.30	9.33	308.97	310.34	7.96
5.5	335.81	11.08	324.73	327.41	8.40
6.3	356.97	13.20	343.77	348.04	8.93
7.3	383.03	15.80	367.23	373.45	9.58
5.1	402.56	17.76	384.80	392.50	10.06
5.4	424.30	19.93	404.37	413.70	10.60
6.1	450.18	22.52	427.66	438.94	11.24
6.9	481.24	25.62	455.62	469.23	12.01

*Civil service retired pay without the reduction for survivor benefit costs is the same as the military retired pay amount in column (2) so that the implied cost is column (2) - column (3) equals column (6).

**The cost for military SBP is always 2.5% of \$300 plus 10% of any amount over \$300. This cost is recalculated after each CPI increase to the member's base amount.

***The original civil service retired pay of \$300 is reduced by the original cost of \$7.50 to become \$292.50. CPI increases are applied to this reduced retirement annuity amount.

widow. The cost of this protection is \$37.50 monthly or \$450 annually. Assuming he is age 70 when he dies, he would have paid in \$13,500 in total payments. If his wife is at least 62, she would receive only \$37.00 per month due to the social security offset. She would have to live 30 years to recover the \$13,500 in total payments.

Example 2 (Ref 22:22): A man retires at age 45 and joins the SBP at a base amount of \$1000 monthly to provide his widow with \$550 monthly at his death. His costs are \$77.50 monthly or \$930 annually. If he dies when he is 70, his total payments would have been \$23,250. His widow (at least 62 years old) would receive \$257.00 a month after the social security offset. She would have to live eight years to recover the \$23,250 in costs.

Example 3 (Ref 22:22): Retiring at age 50, a man joins the SBP at a base amount of \$1500 to provide his widow a benefit of \$825 monthly. Costs are \$127.50 monthly or \$1530 yearly. If he dies at 70, his total payments are \$30,600. His widow (at least 62 years old) would receive \$525 monthly after the social security offset. To recover the \$30,600 in payments she would have to live five years.

Example 4 (Ref 22:22): A man retires at age 40 and participates at a base amount of \$300 monthly (minimum base amount) to provide his widow a monthly annuity of \$165. Costs are \$7.50 monthly or \$90 a year. At age 70, the man has paid in \$2700 to the SBP. If he dies after his wife is

62, she will receive no SBP payments at all because of the social security offset. Even if the social security offset was reduced to 50 percent, she would receive only \$19 a month. To recover the SBP payments, given the 50 percent offset, she would have to live to be approximately 200 years old.

The major emphasis of the above examples was to examine the possibility of the surviving spouse recouping the money paid into the SBP by the member. The examples demonstrate that the social security offset will prolong the time required to regain the costs of participating in the plan. The last example shows the offset completely wiping out the SBP payments and thus making the recovery of the money paid in an impossibility. All of the examples assume the member lives to old age, 70 in all 4 cases. The younger the member retires the longer it takes for the costs to be recovered. Another trend indicated by the examples is that a member retiring at an older age and participating at a high base level can recover the costs in a short period even with the offset applied.

B. Automatic Feature of the SBP

If the member takes no action, the spouse will automatically be provided the maximum possible protection based on the retiree's full retired pay. If the member declines participation, elects a lesser base amount, or chooses to

cover a dependent child (or children) instead of spouse, his or her decision must be put in writing at least 30 days before the first day of receiving retired pay. In addition, the member's spouse will be notified of the decision. The choice not to participate in the SBP is irrevocable once the member becomes entitled to retired pay.

C. Consumer Price Index (CPI)

This section examines the CPI in a different perspective than the approach taken in the section on costs. Each time military retired pay is increased by a cost-of-living increase based on the CPI during the retiree's lifetime the base amount for the survivor's annuity is increased by the same percent. Inflation is reflected in the purchasing power of consumer's money through changes in the CPI, which is an important measure of the inflation rate.

Currently, it is possible to deposit money in a bank or credit union savings account at an interest rate of approximately six percent. The opportunity cost of not having money at the present would be six percent, which could also be called a discount rate. The money invested in a savings account will grow in absolute terms, but due to inflation the purchasing power of the money will be less. The present purchasing value (PPV) is determined by the factors of the discount rate and inflation. The PPV can be determined from the following equation:

$$PPV = \frac{PV - CPI}{1 + CPI} \quad (\text{Ref 12:17}) \quad EQ6$$

where PV is the present value discount rate or six percent for the purpose of this study. For the development of EQ6 see APPENDIX A.

The purpose of TABLES 2 and 3 (next two pages) is to demonstrate that increases in the CPI increase the benefits in an effort to protect the beneficiary's buying power. However, higher proportional costs result because cost changes due to the CPI increases are calculated at 10 percent of the increased base. Therefore, the cost/benefit ratio will increase with time as inflation occurs. By comparing columns 5 and 6 with columns 3 and 4 respectively, the effects of the real present value (RPV) of money on costs and benefits can be seen. The RPV of any cost or benefit shown in columns 5 and 6 decrease over time to values significantly less than the respective values in columns 3 and 4. As the time after retirement increases, the disparity in the absolute values and real present values will become greater. Because the SBP benefits are received after all costs have been incurred, the cost/benefit ratio will be greater when including the real present value of money than when considering just the absolute values.

Under the SBP, the costs are incurred from the time of retirement to the retiree's death, and the benefits are

TABLE 2*
\$300 BASE, 6% DISCOUNT RATE

1 YR	2 BASE	3 COST	4 BENEFIT	5 COST(RPV)	6 BENEFIT(RPV)	7 CPI
0	\$ 300.00	\$ 7.50	\$ 165.00	\$ 7.50	\$ 165.00	0.0%
1	300.00	7.50	165.00	7.08	155.66	0.0
2	300.00	7.50	165.00	6.67	146.85	0.0
3	300.00	7.50	165.00	6.30	138.54	0.0
4	300.00	7.50	165.00	5.94	130.70	0.0
5	300.00	7.50	165.00	5.60	123.30	0.0
10	300.00	7.50	165.00	4.19	92.14	0.0
20	300.00	7.50	165.00	2.34	51.45	0.0
30	300.00	7.50	165.00	1.31	28.73	0.0
0	300.00	7.50	165.00	7.50	165.00	4.0%
1	312.00	8.70	171.60	8.54	168.36	4.0
2	324.48	9.95	178.46	9.58	171.79	4.0
3	337.46	11.25	185.60	10.63	175.29	4.0
4	350.96	12.60	193.03	11.68	178.87	4.0
5	365.00	14.00	200.75	12.73	182.51	4.0
10	440.07	21.51	242.04	17.78	200.06	4.0
20	657.34	43.23	361.54	29.53	247.01	4.0
30	973.02	74.80	535.16	42.24	302.21	4.0
0	300.00	7.50	165.00	7.50	165.00	6.0%
1	318.00	9.30	174.90	9.30	174.90	6.0
2	337.08	11.21	185.39	11.21	185.39	6.0
3	357.30	13.23	196.52	13.23	196.52	6.0
4	378.74	15.37	208.31	15.37	208.31	6.0
5	401.47	17.65	220.81	17.65	220.81	6.0
10	537.25	31.23	295.49	31.23	295.49	6.0
20	962.44	73.71	529.18	73.71	529.18	6.0
30	1723.05	149.81	947.68	149.81	947.68	6.0
0	300.00	7.50	165.00	7.50	165.00	8.0%
1	324.00	9.90	178.20	9.72	174.96	8.0
2	349.92	12.49	192.46	12.04	185.53	8.0
3	377.91	15.29	207.85	14.47	196.72	8.0
4	408.15	18.32	224.48	17.02	208.59	8.0
5	440.80	21.58	242.44	19.69	221.19	8.0
10	647.68	42.27	356.22	35.18	296.50	8.0
20	1398.29	117.33	769.06	81.29	532.82	8.0
30	3018.80	279.38	1660.34	161.11	957.48	8.0

*For a discussion of each column and how it was calculated
see APPENDIX B.

TABLE 3*
\$500 BASE, 6% DISCOUNT RATE

1 YR	2 BASE	3 COST	4 BENEFIT	5 COST(RPV)	6 BENEFIT(RPV)	7 CPI
0	\$ 500.00	\$ 27.50	\$ 275.00	\$ 27.50	\$ 275.00	0.0%
1	500.00	27.50	275.00	25.94	259.43	0.0
2	500.00	27.50	275.00	24.47	244.75	0.0
3	500.00	27.50	275.00	23.09	230.90	0.0
4	500.00	27.50	275.00	21.78	217.83	0.0
5	500.00	27.50	275.00	20.55	205.50	0.0
10	500.00	27.50	275.00	15.36	153.56	0.0
20	500.00	27.50	275.00	8.57	85.75	0.0
30	500.00	27.50	275.00	4.79	47.88	0.0
0	500.00	27.50	275.00	27.50	275.00	4.0%
1	520.00	29.50	286.00	28.94	280.60	4.0
2	540.80	31.58	297.44	30.40	286.32	4.0
3	562.43	33.74	309.34	31.87	292.16	4.0
4	584.93	35.99	321.71	33.35	298.11	4.0
5	608.33	38.33	334.58	34.85	304.18	4.0
10	740.12	51.51	407.07	42.58	336.47	4.0
20	1095.56	87.06	602.54	59.48	411.66	4.0
30	1621.70	139.67	891.94	78.87	503.69	4.0
0	500.00	27.50	275.00	27.50	275.00	6.0%
1	530.00	30.50	291.50	30.50	291.50	6.0
2	561.80	33.68	308.99	33.68	308.99	6.0
3	595.51	37.05	327.53	37.05	327.53	6.0
4	631.24	40.62	347.18	40.62	347.18	6.0
5	669.11	44.41	368.01	44.41	368.01	6.0
10	895.42	67.04	492.48	67.04	492.48	6.0
20	1603.57	137.86	881.96	137.86	881.96	6.0
30	2871.75	264.68	1579.46	264.68	1579.46	6.0
0	500.00	27.50	275.00	27.50	275.00	8.0%
1	540.00	31.50	297.00	30.93	291.60	8.0
2	583.20	35.82	320.76	34.53	309.20	8.0
3	629.86	40.49	346.42	38.32	327.87	8.0
4	680.24	45.52	374.13	42.30	347.65	8.0
5	734.66	50.97	404.06	46.50	368.64	8.0
10	1079.46	85.45	593.70	71.13	494.17	8.0
20	2330.48	210.55	1281.76	145.87	888.03	8.0
30	5031.33	480.63	2767.23	277.17	1595.80	8.0

*For a discussion of each column and how it was calculated
see APPENDIX B.

paid from the retiree's death until the beneficiary dies. Since the PPV factor has a greater effect over time, the benefit variable will be affected more than the cost variable. In addition, when the widow reaches age 62 the social security offset will reduce the SBP benefit even more.

"The year '0' real present value of a retiree's total lifetime costs will be approximately twelve times the sum of all monthly RPV benefits listed from the year of the retiree's death until the year of his widow's death." (Ref 12:52)

D. 100% Social Security Offset

In Senate Report 92-1089, the Senate Armed Services Committee's rationale for establishing the social security offset in the SBP included the following:

"(1) The social security OASI benefit was a source of survivor coverage resulting from government service, (2) The plan was designed to complement the social security program because of the coverage gap between the time the last child leaves home (end of OASI Mother's Benefit) and the last time the OASI Widow's Benefit begins, (3) The government's substantial contribution to social security should be recognized, and (4) Adding a benefit plan similar to the civil service plan on top of social security would provide a plan superior to that available to other government employees." (Ref 9:15)

The report also stated that the offset would not be increased due to social security earnings in nongovernment employment of either the retired member or the survivor.

The social security offset feature of the SBP has drawn more complaints than any other part of the plan. Of the

600,000 military retirees who do not participate in the SBP 145,000 said that they would join if the offset was reduced (Ref 21:4). Military retirees are paying a greater share of the SBP than was ever intended by Congress. If no changes are made, an enlisted member who retires in 1987 will pay $2\frac{1}{2}$ times what the survivor will receive in benefits (Ref 21:4). Bills to reduce the offset to 50 percent have been introduced into Congress, but have failed to pass.

There are two instances in which a survivor's SBP annuity will be reduced according to the survivor's entitlement to a Social Security Old Age and Survivors Insurance (OASI) benefit.

A widow with one dependent child will have her annuity reduced by the amount of the OASI Mother's Benefit to which she is entitled based solely on the social security covered earnings of her husband's active military service. The OASI Mother's Benefit is 75 percent of the primary insurance amount (PIA) associated with a particular average monthly wage (AMW). A detailed explanation of the PIA and AMW calculations will appear later in this section (Ref 9:14).

For a widow of age 62 or over with no dependent children, the SBP annuity is reduced by the amount of OASI Widow's Benefit to which she would be entitled on the basis of the AMW. The offset is deducted from her SEP annuity whether or not she actually collects social security

payments. At the age of 65, the OASI Widow's Benefit is 100 percent of the PIA associated with the deceased spouse's AMW. The widow may elect to begin receipt of annuity as early as age 60, but the benefit is reduced by 19/40 of 1 percent for each month prior to age 65. If receipt of the benefit starts before age 65 then the benefit continues at the reduced amount even after age 65 (Ref 9:15).

The following example is presented to clarify the drawbacks to the social security offset.

Example: As a result of his military earnings, a serviceman earns an old-age social security pension of \$200.00 per month. His wife builds up a \$250.00 per month social security benefit as a result of her own work. Assuming that she is at least 62 years of age at his death, her SBP benefit will be reduced by \$200.00 a month because of her husband's social security earnings, even though she is collecting her own social security benefits and none of her husband's.

The example emphasizes the fact that SBP payments are reduced or offset based on social security payments that the surviving spouse is entitled to and not on social security payments actually received. In this case, the wife's SBP payment is being reduced by the social security payments earned by the husband through military service.

1. AMW and PIA Calculations

Social security payments based solely on the retiree's military service use basically the same procedures used by the Social Security Administration. Survivor benefits under the social security system are based on the PIA which is determined from a schedule relating a member's AMW to the PIA. For this calculation, it is assumed that the member lives to age 65 and the only social security covered employment occurred while on active duty. The AMW is calculated as follows:

- Step 1: List all social security covered earnings resulting from member's active military service by calendar year. Consider all years in which the member did not perform any active duty as zero earnings years. (See APPENDIX C for maximum earnings covered by social security.)
- Step 2: Eliminate from the calculation the amount of earnings in the five calendar years in which the member has the lowest or no social security covered earnings. In most cases, zero earnings will be dropped.
- Step 3: Sum the remaining earnings and divide by the total number of months in the remaining years. The result is the AMW based solely on the active duty of the member.

Next, the member's PIA based solely on active service is determined by using the social security schedule that relates the AMW to a specific PIA. This schedule changes every year and can be obtained upon request at a local Social Security Administration office.

If a member has an AMW of less than \$76.00 (current value), the PIA will equal a minimum of \$84.50 (current value). In this case only a portion of the \$84.50 will be used as the "PIA based solely on the member's active service." This "special PIA" can be calculated by the following equation:

$$\begin{array}{lcl} \text{PIA based solely} & & \text{member's AMW based} \\ \text{on member's} & = & \$84.50 \times \frac{\text{solely on active service}}{\$76.00} \\ \text{active service} & & \end{array} \quad (\text{Ref 8:11})$$

It is important to note that in the great majority of cases that military retirees with 20 or more years of social security coverage as a result of active duty will be unaffected by this provision (Ref 8:10).

Under the SBP, when the surviving family consists of a spouse with one dependent child, 75 percent of the PIA based solely on the member's active service will be offset from the spouse's SBP annuity regardless of age. A surviving spouse with no dependent children will have the SBP annuity offset by $82\frac{1}{2}$ percent of the PIA based solely on the member's active service after the surviving spouse reaches age 62. In both instances, the SBP payments are

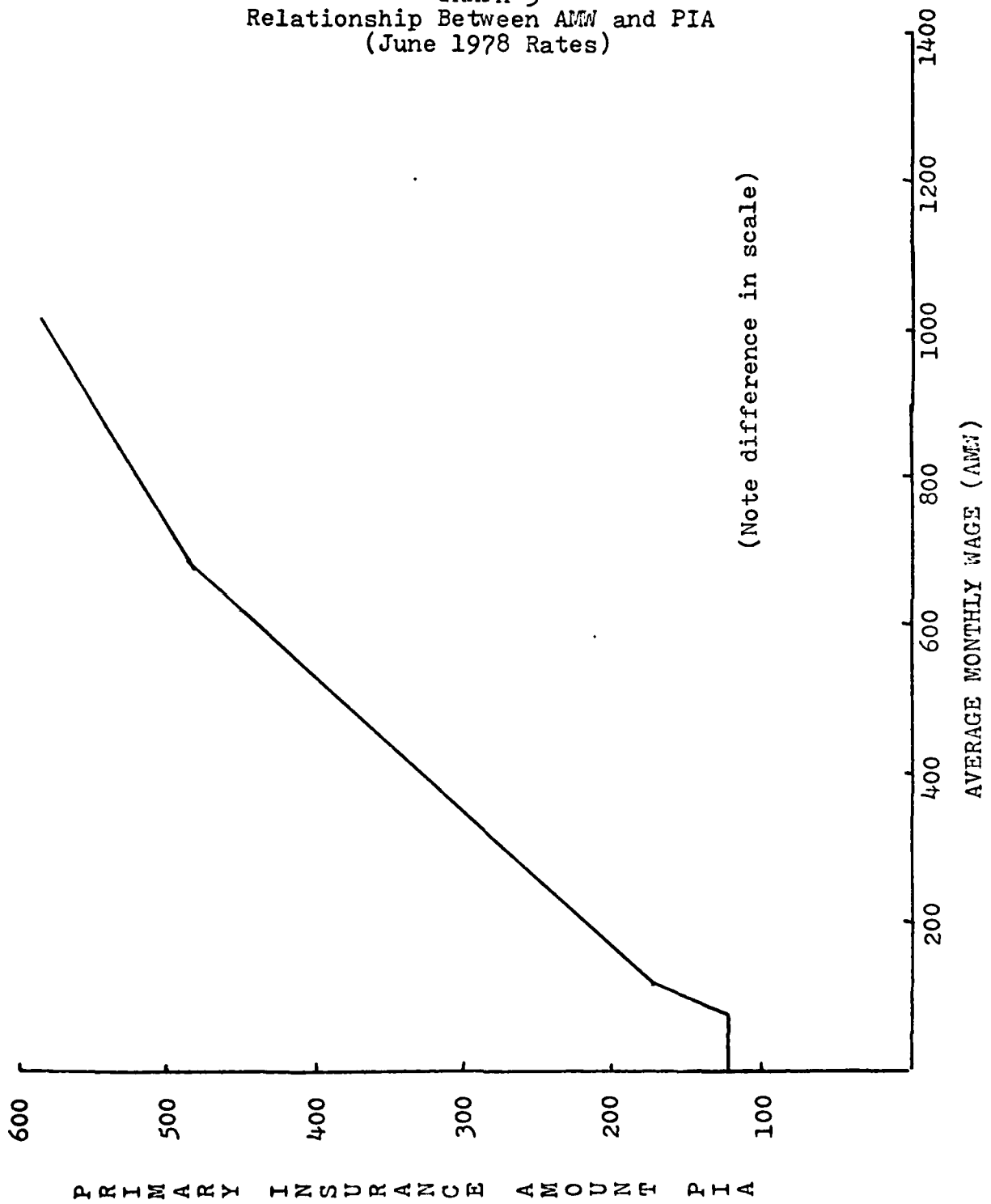
reduced on the basis of the spouse's entitlement to survivor benefits and not on whether benefits are actually received. In the case where a natural person with an insurable interest receives a benefit under the SBP, there is no offset for social security or DIC.

Another point should be made regarding the PIA. As an individual increases his or her social security covered wages the less additional benefit will be gained in proportion to previous covered earnings. This is reflected in GRAPH 3 (next page). The AMW-PIA curve in the graph shows that to produce an additional dollar of PIA requires more additional dollars of covered earnings than the previous added dollar of PIA required.

2. An SBP Tactic

Because of the functions of the social security offset, one study has concluded that surviving spouses covered by the SBP may come out ahead if they start collecting reduced social security at age 60 instead of getting higher benefits at age 62 or age 65 (Ref 4:5). At age 60, a surviving spouse may collect 71 percent of the member's PIA and there would be no offset to the SBP payments until the surviving spouse reached age 62. When the spouse reached age 62 the SBP payment would be reduced by $82\frac{1}{2}$ percent of the deceased member's military earned social security benefit. The following example illustrates how a widow could come out ahead by using this tactic.

GRAPH 3
Relationship Between AMW and PIA
(June 1978 Rates)



A member's social security benefit attributable to military service is \$100.00 a month. If his widow elects to take social security at age 60, she would receive \$71.00 a month. In two years this would add up to \$1704.00. At 62 her offset would be \$81.50 or a monthly loss of \$11.50. She would have to collect benefits 12 years past her 62nd birthday before her \$11.50 loss would equal \$1704.00.

E. Dependency and Indemnity Compensation (DIC)

Administered by the Veterans' Administration, DIC is payable to survivors of a retiree who dies of a service-connected cause. Monthly payments to a surviving spouse are based on the pay grade of the member upon whose death the entitlement is predicated. These rates are shown in the following table (Ref 26:153):

Pay Grade	Monthly Rate	Pay Grade	Monthly Rate
E-1.....	\$297	W-4.....	\$426
E-2.....	307	O-1.....	376
E-3.....	314	O-2.....	388
E-4.....	334	O-3.....	416
E-5.....	343	O-4.....	439
E-6.....	351	O-5.....	484
E-7.....	368	O-6.....	544
E-8.....	388	O-7.....	590
E-9.....	406	O-8.....	646
W-1.....	376	O-9.....	694
W-2.....	391	O-10.....	760
W-3.....	402		

The surviving spouse's payment is increased \$35.00 for each dependent child below the age of 18.

When there is no surviving spouse of a deceased veteran entitled to DIC, the children of the deceased veteran

are paid in equal shares at the following rates.

1. one child, \$150;
2. two children, \$216;
3. three children, \$278; and
4. more than three children, \$278, plus \$56 for each child in excess of three (Ref 26:158).

Under the SBP, the DIC payment is supplemented by a Defense payment to insure the survivors receive 55 percent of the member's retired pay. When survivors are eligible for both the SBP and DIC, the SBP payment is reduced by the amount of the DIC payment. If the DIC entitlement is greater than the SBP entitlement then the SBP is terminated and the cost of providing SBP coverage for children is not refunded (Ref 6:29).

F. If Member Dies on Active Duty

The SBP guarantees that no surviving spouse of a retirement eligible member dying on active duty receives less than a surviving spouse of a similar member (same grade and length of service) dying in retirement (Ref 29:3296).

Spouses and dependent children of members who die on active duty before becoming eligible for retirement are not covered under the SBP (Ref 29:3296).

G. Guaranteed Minimum Income

Under the SBP, spouses of military retirees are guaranteed a minimum annual income of \$2,340 (Ref 27:3). The

spouse of a retiree who is eligible for the Veterans' Administration Non-Service Connected Death Pension and whose income is less than \$1,400 annually will have a Defense Department payment to bring the income to the \$1,400 level. The combination of the spouse's entitlement from the Veterans' Administration and the \$1,400 will provide an annual income of \$2,340. The Armed Services Committee was well aware that this minimum annual income would provide only for the basic needs (Ref 29:3310).

Changes to the SBP

The SBP has undergone many changes and modifications since it was instituted in September 1972. Every attempt has been made to incorporate these changes into this study. In this section a number of changes not already included in the study will be highlighted.

1. No longer is the member required to pay for the SBP once the retiree's marriage is terminated by death of the spouse, divorce, or annulment, or when other designated beneficiaries predecease the retired member (Ref 9:5).

2. One year is the required length of marriage for a surviving spouse to be eligible for SBP benefits (Ref 9:5). Formerly two years was the requirement.

3. Formerly, surviving spouses who were covered by both the SBP and DIC and remarried after age 60, not only lost entitlement to DIC but also continued receiving reduced

SBP payments. Now, the surviving spouse has the full SBP annuity restored (Ref 25:7).

4. The social security offset does not apply to working widows or widowers receiving SBP payments (Ref 27:3). Worded differently, surviving spouses who are actively employed do not have their SBP payments offset.

Proposed Congressional Changes to the SBP

There have been a number of proposed changes to the SBP that have gone before Congress. However, there are two changes that stand out as being important in regards to increasing member participation in the SBP. First, conversion to the method of calculating cost in the SBP to match the civil service method. Second, reduction of the social security offset from 100 percent to 50 percent. Both of these revisions have been voted upon and have failed to pass in Congress, but both are scheduled to go before Congress again. If either one or both would pass, the attractiveness of SBP participation would be enhanced.

Another proposed change is the elimination of the offset for surviving spouses who draw social security payments based on their own earnings and contributions (Ref 27:3).

One last note concerning changes and proposed changes to the SBP. Many of the original SBP documents and regulations do not reflect the latest modifications. It is very

important that the military member remain informed on these changes. As can be seen, one or two revisions could change an individual's mind regarding participation in the SBP.

The Affect of Taxes on the SBP

The SBP costs withheld from the retiree's paycheck are not considered as taxable income. This has the effect of driving down the cost of the SBP (Ref 14:1). However, benefit payments to the survivors are taxable income. In states that have tax laws similar to the federal regulations, the monthly SBP costs are exempt from state income tax. This is one area in which the SBP has an advantage over the civil service survivor program. Under the civil service plan, the monthly costs are taxable and the survivors must pay tax on the annuities above the amount of the civil servant's contributions (Ref 14:15).

To better illustrate the effect of the SBP costs not being taxed, the following example is given. Assume a retired officer's pay is \$1,000 per month and he or she is in the 25 percent bracket. Normally the income tax would be \$250. If participation in the SBP is at the maximum amount, the cost is \$77.50. The retired pay is reduced by \$77.50 leaving \$922.50 subject to federal income tax. At the 25 percent rate the tax would then be \$230.63 as compared to the \$250.00.

SBP benefits are not considered part of the estate for federal estate tax purposes. Currently, 13 states impose an inheritance tax on benefits derived from the SBP (Ref 26:37). Connecticut, Mississippi, Rhode Island, Iowa, and New Jersey place no exemption at all on the SBP benefit; its full value is computed and added to the value of the estate. The eight other states tax survivor benefits only if they exceed a prescribed exemption - Arizona, North Carolina, Montana, Hawaii, Missouri, Ohio, Kentucky, and Minnesota.

Chapter II Summary

A large amount of material was presented in this chapter. This section represents an effort to recapitulate, organize, and emphasize fundamental concepts of the SBP.

The SBP is the best survivor benefit program the armed services have had, but along with the plan's strengths there are features that have been instrumental in keeping the participation rate low.

By participating in the SBP, the member agrees to a reduction in retired pay to provide a monthly annuity to an eligible beneficiary. The costs of the SBP are taken from the retiree's paycheck on a monthly basis and the beneficiary starts to receive the benefits when the member dies. Calculations for costs and benefits are easy. Monthly costs are $2\frac{1}{2}$ percent of the first \$300 of the base amount

in excess of \$300. Monthly benefits are 55 percent of the base amount. The base amount is elected 30 days before retirement and is the degree at which the member participates.

There are a number of factors that play major roles in evaluating and analyzing the SBP. These factors are highlighted below.

(1) The cost/benefit ratios increase as the base amount increases. The author perceives this to be a negative factor for participating at a high level.

(2) The SBP method of determining costs produces higher costs than the civil service procedure of calculating costs. The Congressional intent was that both methods would be identical.

(3) The automatic participation feature of the SBP is considered by the author as a negative factor because of the limited number of ways of getting out the SBP once participation has been elected. Others feel this is a positive feature. Non-participation or participation at a reduced level must be put in writing 30 days prior to retirement.

(4) Even though it raises the cost/benefit ratio, the CPI adjustment is still considered a positive element since no private insurance policy offers protection against the cost-of-living.

(5) The 100 percent social security offset is considered a major drawback to the SBP. This offset is

initiated when the surviving spouse reaches age 62 and is applicable on the basis of entitlements and not payments actually received. There is a proposed change before Congress to reduce the offset to 50 percent.

(6) Taxes on the SBP give a "mixed bag" affect - benefits are taxable, but costs are not.

Finally, it is important that the member be aware of changes and proposed changes to the SBP. One or two revisions could alter a members decision regarding SBP participation.

III. Methods of Analysis

There are basically two ways of analyzing the SBP - hand calculations and a computer model. In the first portion of this chapter the hand calculation method is briefly examined. The latter portions of this chapter concern the further development of an already existing computer model. The sections containing the computer model go into considerably more detail.

Hand Calculations

If a member desires to determine the basic costs and benefits for a specific base amount, the calculations are simple and can be accomplished easily by manual methods. The difficulty arises when an individual wants to investigate the costs and benefits for a series of base amounts at different degrees of participation. The calculations become more complex and tedious when variations of the following are considered:

1. Retirement date
2. Member's and spouse's projected dates of death
3. Number of years in civilian employment
4. Social security covered earnings and resultant offset

5. Number of children and their dates of birth.

As can be readily surmised, hand calculations are extremely time consuming when any in-depth analysis is attempted. Not only could a single computation error provide worthless results, but it could also be difficult to detect and locate. For these reasons, the development of a computer model is highly desirable.

Computer Analysis

The remainder of this chapter is based entirely upon the unpublished report, The Survivor Benefit Plan: An Automated Analysis and Evaluation (hereinafter referred to as reference 15). Most of the material on the computer model either comes directly from or is an adaptation of information contained in reference 15. The development of the computer analysis follows a threefold plan of attack:

(1) Present the reasoning behind the need for a computer analysis of the SBP and determine the scope, assumptions, and constraints required to facilitate such an analysis.

(2) Develop a computer model that can serve military Consolidated Base Personnel Offices (CBPO) in counseling perspective retirees on various SBP options. The computer model should be efficient and written in a standard computer language.

(3) Evaluate the computer model. Enumerate the advantages and problem areas of the model. Suggest possible improvements.

A. Impetus for the Computer Analysis

A 1977 Air Force survey (previously referred to in Chapter I) showed that a high percentage of Air Force members had not been counseled on the SBP. Discussions with retirement counselors regarding conclusions from the survey revealed the following issues which operate as restraints to the success of the SBP.

1. The elements of the plan are extremely complicated and directives explaining the plan lack clarity.

2. Long and tedious calculations are required to produce the costs and benefits for each degree of participation in which the member might be interested.

3. Retirement counselors are not equipped to assist or advise the retiring member on a method of analysis from which a decision can be made. Therefore, limited analysis of the options is achieved.

4. Generally, insufficient time is allotted during the retirement outprocessing to adequately counsel the retiring member.

5. There is a wide variance in the uniformed services of the quantity and quality of the counseling of retirees regarding the SBP. Counselors are reluctant to appear to

sell the program. This could be due to the difficulty encountered when doing calculations by hand.

The above conditions faced by retirement counselors significantly hinder perspective retirees in making informed decisions regarding the degree of participation in the SBP. The counselors expressed a desire for an automated system to calculate costs and benefits of the SBP; thus the impetus for the computer analysis in reference 15 was inspired.

The research problem was the development of a computer model that would meet the needs of 90 percent of the retirees. The goal of the computer model was to provide a retiree with an analysis of costs and benefits as a function of the degree of participation and varying dates of death.

Certain assumptions and constraints were imposed upon the model by the authors of reference 15 to keep the development effort within resource and time limits. The assumptions and constraints are:

1. Active duty, non-disability officer and enlisted retiring personnel with spouses are considered in the initial phase.

2. The retired member predeceases the spouse and the spouse does not predecease the children or the children attain the age of 23 prior to the death of the spouse.

3. Death of the retired member occurs no sooner than 120 days after date of retirement.

4. All children of the retiring member will attend four years of college or a full time equivalent education.

5. Level of social security benefits due spouse is determined by the service member's contribution.

6. Discrimination between voluntary and statutory retirement is not made.

7. Compensation for changes in inflation rates is not included in the model, i.e., all projections are in terms of 1979 dollars.

8. Cases involving beneficiaries with insurable interest in the retiree are not considered.

9. The model is to be user-oriented. The input required of the retiring member is to come primarily from the member's uniformed services record. The printed results from the model are to be straight forward and require no interpretation by analysts.

B. The Computer Model

1. The Model

The model's computer listings of the main program and its subroutines appear in APPENDIX F. The author feels that this computer model accomplishes tasks and meets goals that are vital in aiding retirement counselors and informing

perspective retirees regarding specific details of the SBP. These tasks and goals are listed below.

a. Accomplish the calculations required by Department of Defense directives on the SBP within the constraints and assumptions previously cited.

b. User-oriented and available for immediate utilization. CBPO personnel need not be computer specialists to enter the inputs, nor do perspective retirees need to be computer analysts to read and understand the outputs.

c. Written in a standard computer language to alleviate as much modification as possible due to different computer equipment at various military bases.

2. Input Data

There are two sets of data which must be input to the program upon which it operates and produces results - global data and retiring member oriented data.

a. Global Data - The global data consists of 28 separate tables, but was stored in the computer under one filename, PAYSCALE. By reading in the global data as one data set, only 2 files of computer storage were used as compared to 28 files if the data had been read in separately. Minor modifications were made to the computer program to enable it to read all global data from a single data set. The global data is displayed in APPENDIX G.

1. Pay Tables - There are 21 pay tables starting with the pay table dated April 11, 1955 and continuing

through the pay table dated October 1, 1979. These require updating as new pay tables are enacted into law. Names of pay tables are P01, . . . , P21.

2. Pay Grades - A table relating pay grades to line numbers of the pay tables. Name is TP1.

3. Years of Service - A table relating years of service for pay to the columns of the pay tables. Name is TP2.

4. Relationship of degree of participation and death data. This table relates the degree of participation (none, minimum, retiring member's choice, and maximum) to death dates (four years after retirement, mid-range date, and actuarial date). These combinations provide 12 scenarios under which an evaluation may be made. Name is TBN.

5. Actuarial Data - An actuarial table acquired from the Department of Defense, Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics. The data is keyed to the member's and spouse's age on the date of retirement and is categorized as to officer, enlisted member, wife of officer, and wife of enlisted member. Name is ACT.

6. Wage maximums subject to Social Security Administration (SSA) taxes. A table that provides, by year, the maximum wage amounts subject to social security taxes. This table must be updated as new laws regarding SSA payments are enacted. Name is WMX.

7. SSA Retirement and Survivor Benefits - A table that provides the primary insurance amount and family maximum benefits as a function of average monthly income. This table is used to calculate the social security benefit due survivors and the social security offset to the SBP payments. This table must be updated as new social security laws are enacted. Name is TSS.

b. Retiring Member Input Data - The member data consists of two on-line computer files - one a personal history file and the other a promotion history file. Both sets of data are entered when the computer program is executed.

1. Member's personal history data. This file records the member's last name, first name, middle initial, date of birth, social security number, names of spouse and children (up to 10 children), spouse and children dates of birth, retirement date, member's grade at retirement, pay entry base date, average monthly earnings covered by SSA in civilian employment following retirement, number of years of civilian employment, the amount of cash to be received by the member's surviving spouse on death date, and the number of surviving children. Filename is MEMBR.

2. Member's promotion history data. This file records the member's promotion history from the date on which active duty commenced to the date on which the member is expected to retire. This data may be extracted from

the member's service files. Filename is HIST.

Examples of the member's input files are shown in FIGURES 1 and 2 (following pages). FIGURE 3 gives the actual input data that was used in this study. FIGURE 4 gives the actual computer listings of the output.

FIGURE 1

Input Data for "MEMBR" File

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	0	0																											

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49

- Line 100:
1. Start in space 5 for up to 14 spaces - last name of member.
 2. Start in space 19 for up to 10 spaces - first name of member.
 3. In space 29 and 30 - middle initial of member followed by period or blank.
 4. Start in space 33 for 6 spaces - member's date of birth in YYMMDD format. (i.e., 371216 for 16 December 1937). Use leading zeros for months and days.
 5. In spaces 41 through 49 - SSN omitting usual dashes.

FIGURE 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	0																

- Line 110:
1. Start in space 5 for up to 9 spaces - first name of spouse.
 2. Start in space 14 for 6 spaces - spouse's date of birth in YYMMDD format.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	2	0																
1	3	0																
1	4	0																
1	5	0																
1	6	0																
1	7	0																
1	8	0																
1	9	0																
2	0	0																
2	1	0																

- Line 120:
1. Starting in space 5 up to 9 spaces - first name of member's youngest child
 2. Starting in space 14 for 6 spaces - youngest child's date of birth in YYMMDD format.

Line 130 through 210: Same as line 120 for member's other children in order of increasing age. When all children's names have been entered fill remainder of lines with 0 in space 5 and 000000 in spaces 14 through 19.

FIGURE 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	2	0											

- Line 220:
1. Starting in space 5 for 6 spaces - date member expects to retire in YYMMDD format.
 2. In spaces 11 through 14 - grade in which member expects to retire selected from the following list and entered exactly as listed where ^ represents a blank.

^010	^^07	^^04	^01	^^W2	^^E8	^^E5	^^E2
^^09	^^06	^^03	^^W4	^^W1	^^E7	^^E4	^^E1
^^08	^^05	^^02	^^W3	^^E9	^^E6	^^E3	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	3	0													

- Line 230:
1. Starting in space 5 for 6 spaces - pay entry base date of member in YYMMDD format.
 2. In spaces 13 through 16 - base amount elected by retiree (determines degree of participation in SBP). Leading zeros must be added to ensure all four spaces are filled.

FIGURE 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12
2	4	0									

- Line 240:
1. In spaces 5 through 8 - the average social security covered monthly earnings the member expects to earn in civilian employment after retirement. Enter leading zeros to fill the field.
 2. In spaces 11 and 12 - the number of years following retirement the member expects to be employed in a civilian job - include leading zeros.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	5	0											

- Line 250:
1. In spaces 5 through 10 - the six digit number representing the estimated cash amount to be received by member's spouse upon member's death. Use leading zeros.
 2. In spaces 13 and 14 - number of children for whom data was entered in lines 120 through 210. Use leading zeros if less than 10.

FIGURE 2

Input Data for "HIST" File

1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0											
1	1	0											
1	2	0											
1	3	0											
1	4	0											
1	5	0											
1	6	0											
1	7	0											
1	8	0											
1	9	0											
2	0	0											
2	1	0											
2	2	0											
2	3	0											
2	4	0											
2	5	0											
2	6	0											
2	7	0											
2	8	0											
2	9	0											
3	0	0											
3	1	0											
3	2	0											
3	3	0											
3	4	0											

Format for each line is identical. This file is to contain the member's promotion history. Field in columns 5 through 10 is 6 digit (YYMMDD) effective date for each grade held with earliest date in line 100 and continuing in chronological order. Field in columns 11 through 14 is to contain the grade (entered in same way as in "MEMBR" file input data sheet) associated with date in the first field. Broken service is not permitted. The date in line 100 must be the pay entry base date. If member expects to be promoted prior to retirement that new grade and its associated date should also be entered. After all appropriate dates and grades have been entered the next sequential line must contain zeros in the first field. Thus the next to last entry in the file must always be that associated with the retired grade.

FIGURE 3

Actual Input Data Used

MEMBR 1

100	SMITH	CHARLES	R	351009	123456789
110	DEANNA	370215			
120	PATRICE	590202			
130	TIMOTHY	571212			
140	0	0			
150	0	0			
160	0	0			
170	0	0			
180	0	0			
190	0	0			
200	0	0			
210	0	0			
220	821231	06			
230	570609	0800			
240	2000	20			
250	100000	02			

HIST 1

100	570609	01
110	590109	02
120	611030	03
130	680301	04
140	740131	05
150	790301	06
160	000000	00

FIGURE 3 (continued)

MEMBR 2

100	WOLFE	JOHN	S	320829	123121234
110	JEAN	300528			
120	NANCY	611202			
130	SUZANNE	600409			
140	MICHAEL	590228			
150	0	0			
160	0	0			
170	0	0			
180	0	0			
190	0	0			
200	0	0			
210	0	0			
220	810731	06			
230	550214	0600			
240	1500	06			
250	075000	03			

HIST 2

100	550214	01
110	560814	02
120	610113	03
130	651027	04
140	690218	05
150	760501	06
160	000000	00

FIGURE 3 (continued)

MEMBR 3

100	SANTOS	JAUN	I	351009	321214321
110	PAMELA	401201			
120	PAPPY	690606			
130	HAPPY	680910			
140	HIPPY	671001			
150	LIPPY	661130			
160	TIPPY	650602			
170	DIPPY	640501			
180	NIPPY	630701			
190	ZIPPY	620801			
200	GIPPY	610910			
210	BIPPY	601001			
220	891231	06			
230	570609	0800			
240	2000	20			
250	250000	10			

HIST 3

100	570609	01
110	590109	02
120	611030	03
130	680301	04
140	740131	05
150	790301	06
160	000000	00

FIGURE 4

MEMBER BEING PROCESSED IS) SMITH CHARLES R.
SSN123456789 DOB351000
SPOUSE NAME IS) DEANNA WITH DOB 37 215
CHARLES HAS 2 CHILDREN, THE YOUNGEST BEING PATRICE WITH DOB OF 59 2 2
CHARLES PLANS TO RETIRE 821231 IN THE GRADE OF 06
HE HAS SELECTED A PASE AMOUNT OF 800
HIS PAY ENTRY BASE DATE IS 57 6 9, AND HE HAS LEFT INSURANCE IN
THE AMOUNT OF \$100000.

MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ON 821231 IN THE
GRADE OF 06.

MILITARY RETIRED PAY ENTITLEMENT IS \$1807 PER MONTH

FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS OR GIVENS HAVE BEEN USED)

NUMBER OF YEARS OF CIVILIAN EMPLOYMENT - 21
AVERAGE MONTHLY EARNINGS COVERED BY SOCIAL SECURITY - \$ 2000
MEMBERS DOB - 3510 9
SPOUSE DOB - 37 215

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 0 AND DATE OF DEATH OF MEMBER OF 19861231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
198612 0	0	0	0	0	0
1999 215	497	0	0	0	497

MONTHLY INTEREST INCOME FROM \$150000. IS \$ 125.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 19861231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
198512 J	0		165	0	165
1999 215	497		165	165	497

MONTHLY INTEREST INCOME FROM \$100000. JS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 52.

THIS TABLE BASE AMOUNT 800 AND DATE OF DEMISE OF MEMBER OF 19961231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19951231	5	440	0	440	440
1999216	497	440	334	334	673

MONTHLY INTEREST INCOME FROM 1100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 19 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 52.

THIS TABLE BASE AMOUNT 1897 AND DATE OF DEMISE OF MEMBER OF 19361231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
193612 0	0		993	0	993
1939 215	497		993	334	1116

MONTHLY INTEREST INCOME FROM \$10000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 0 AND DATE OF DECEASE OF MEMBER OF 19981231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	TOTAL BENEFIT
19981231	0	0	0	0
1999215	497	0	0	497

MONTHLY INTEREST INCOME FROM 8100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 19381231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
193812 3	0	0	165	0	165
1939 215	497	165	165	165	497

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 125.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 630 AND DATE OF DEMISE OF MEMBER CF 19981231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
199812 0	1		440	0	440
1999 215	497		440	334	613

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 1617 AND DATE OF DEMISE OF MEMBER OF 19981231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19981231	0	0	993	0	993
19992131	497	0	993	334	1156

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEMISE OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2011 727	497	0	0	0	497

MONTHLY INTEREST INCOME FROM \$10000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEATH OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2011 727	497	165	165	497

MONTHLY INTEREST INCOME FROM \$100000. IS \$ 25.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 800 AND DATE OF DECEASE OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
2011 727	497	443	334	673

MONTHLY INTEREST INCOME FROM 2100000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 19 AND 23 AND THE SPOUSE, DEANNA REACHING AGE 62.

THIS TABLE BASE AMOUNT 1837 AND DATE OF DEMISE OF MEMBER OF 2011 727

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SRP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
2011 727	497	993	334	1156

MONTHLY INTEREST INCOME FROM 31060000. IS \$ 625.00

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A COST-BENEFIT ANALYSIS OF THE SBP CONSIDERING COST TO THE MEMBER, AMOUNT OF SBP BENEFITS,

COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION

DEGREE OF PARTICIPATION	DATE OF DEATH	TOTAL COST	ACTUAL MON COST	TOTAL BENEFIT	AVERAGE BENEFIT PER MON
0	19661231	0	0	95921	282
3.0	19801231	300	7	95921	282
8.0	19861231	2700	57	115370	343
18.7	19861231	7593	158	223108	658
0	19981231	0	0	95921	491
3.0	19981231	1000	7	95921	491
8.0	19981231	11000	57	116370	595
18.7	19981231	30374	158	223108	1144
0	2011 727	0	0	21866	497
3.0	2011 727	2972	7	21866	497
8.0	2011 727	19722	57	25532	603
18.7	2011 727	54262	158	50864	1156

THE SPROUT FILE IS NOW READY TO BE LISTED FOR CHARLES R. SMITH

FIGURE 4 (continued)

MEMBER BEING PROCESSED IS) WOLFE JOHN S

SSN123121234 D0032 829

SPOUSE NAME IS) JEAN WITH D03 30 528

JOHN HAS 3 CHILDREN, THE YOUNGEST BEING NANCY WITH D08 OF 6112 2

JOHN PLANS TO RETIRE 61 731 IN THE GRADE OF O6

HE HAS SELECTED A BASE AMOUNT OF 600

HIS PAY ENTRY BASE DATE IS 55 214, AND HE HAS LEFT INSURANCE IN THE AMOUNT OF \$ 75000.

SBP ANALYSIS FOR JOHN S WOLFE

MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ON 51 731 IN THE GRADE OF O6.

MILITARY RETIRED PAY ENTITLEMENT IS \$1950 PER MONTH

FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS OR GIVEN HAVE BEEN USED)

NUMBER OF YEARS OF CIVILIAN EMPLOYMENT - 6
AVERAGE MONTHLY EARNINGS COVERED BY SOCIAL SECURITY - \$ 1500
MEMBERS DOR - 32 829
SPOUSE DOR - 30 528

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 0 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
1985 731	0	0	0	0
1992 528	497	0	0	497

MONTHLY INTEREST INCOME FROM 3 75030. IS \$ 468.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JFAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	OFFSET	TOTAL BENEFIT
1985 731	0	165	0	165	165
1992 528	497	165	165	165	497

MONTHLY INTEREST INCOME FROM \$ 75000. TS \$ 68.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 600 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1985 731	0		330	0	330
1992 528	497		330	328	409

MONTHLY INTEREST INCOME FROM 75000. IS 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 22 AND THE SPOUSE, JFAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 1959 AND DATE OF DEMISE OF MEMBER OF 1985 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1985 731	0	1077	0	0	1077
1992 528	497	1077	328	328	1216

MONTHLY INTEREST INCOME FROM \$ 75000. IS 1 468.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 22 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 6 AND DATE OF DEMISE OF MEMBER OF 1995 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1996 731	497	0	0	0	497

MONTHLY INTEREST INCOME FROM 6 75000. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 21 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 390 AND DATE OF DEMISE OF MEMBER OF 1995 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1996 731	497		165	165	497

MONTHLY INTEREST INCOME FROM 175000. IS \$168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 600 AND DATE OF DEATH OF MEMBER OF 1936 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1996 731	497		333	326	409

MONTHLY INTEREST INCOME FROM \$ 75000. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 14 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 1955 AND DATE OF DEMISE OF MEMBER OF 1935 731

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
1936 731	497		1077	328	1246

MONTHLY INTEREST INCOME FROM Y 75000. IS \$ 68.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 5 AND DATE OF DEMISE OF MEMBER OF 201810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SRP	BEFORE SSA OFFSET	TOTAL BENEFIT
201810 5	497	0	0	497

MONTHLY INTEREST INCOME FROM 1 75030. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 300 AND DATE OF DEMISE OF MEMBER OF 200810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SAP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
200810 5	497	165	165	497

MONTHLY INTEREST INCOME FROM \$ 75000. IS \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JEAN REACHING AGE 62.

THIS TABLE RISE AMOUNT 600 AND DATE OF DEMISE OF MEMBER OF 200810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
200810 5	497	330	328	499

MONTHLY INTEREST INCOME FROM 3 75000.75 \$ 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, JFAN REACHING AGE 62.

THIS TABLE BASE AMOUNT 1959 AND DATE OF DEATH OF MEMBER OF 200810 5

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP OFFSET	BEFORE SSA OFFSET	TOTAL BENEFIT
200810 5	497	1077	328	1246

MONTHLY INTEREST INCOME FROM 2 75000. IS 3 168.75

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A COST BENEFIT ANALYSIS OF THE SBP CONSIDERING COST TO THE MEMBER, AMOUNT OF SBP BENEFITS,

COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION

DEGREE OF PARTICIPATION	DATE OF DEATH	TOTAL COST	ACTUAL NON COST	TOTAL BENEFIT	AVERAGE BENEFIT PER MON
0	1985 731	0	0	107891	354
300	1985 731	386	7	107891	354
600	1985 731	1050	37	131297	355
1959	1985 731	6323	173	252938	687
0	1996 731	0	0	75041	497
300	1996 731	1300	7	76041	497
600	1996 731	6710	37	76347	499
1959	1996 731	31211	173	197638	1246
0	200810 5	0	0	2982	497
300	200810 5	2412	7	2982	497
600	200810 5	12242	37	2991	499
1959	200810 5	56711	173	7477	1246

THE SBP00JT FILE IS NOW READY TO BE LISTED FOR JOHN S WOLFE

FIGURE 4 (continued)

MEMBER BEING PROCESSED IS)	SANTOS	JUAN	I
SSN321214324	00331110		
SPOUSE NAME IS)	PAMELA	WITH DOB	0012 1
JUAN	HAS 10 CHILDREN, THE YOUNGEST BEING PAPPY	WITH DOB OF	69 6 6
JUAN	PLANS TO RETIRE 991231 IN THE GRADE OF	06	
HE HAS SELECTED A BASE AMOUNT OF	800		
HIS PAY ENTRY BASE DATE IS	97 6 9, AND HE HAS LEFT INSURANCE IN		
THE AMOUNT OF	9250.00.		

MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ON 991231 IN THE
 GRADE OF 06.
 MILITARY RETIRED PAY ENTITLEMENT IS \$2336 PER MONTH

FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS OR GIVEN HAVE BEEN USED)

NUMBER OF YEARS OF CIVILIAN EMPLOYMENT - 20
 AVERAGE MONTHLY EARNINGS COVERED BY SOCIAL SECURITY - \$2700
 MEMBERS DOB - 3510 9
 SPOUSE DOB - 0012 1

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, FAMELA REACHING AGE 62.

THIS TABLE CASE AMOUNT AND DATE OF DEMISE OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	REFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19931231	0	0	0	0	0
200212 1	497	0	0	0	497

MONTHLY INTEREST INCOME FROM 1230JUL. IS \$1'62.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 52.

THIS TABLE BASE AMOUNT 300 AND DATE OF DECEASE OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SPP	BEFORE SSA OFFSET	OFFSET	TOTAL BENEFIT
19931231	0	0	105	0	105
200212 1	457	0	105	105	457

MONTHLY INTEREST INCOME FROM 12000000. IS \$1662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 2330 AND DATE OF DEMISE OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SPF	BEFORE SSA OFFSET	TOTAL BENEFIT
19931231	0	1204	0	1204
2002121	497	1204	472	1359

MONTHLY INTEREST INCOME FROM 1250000. IS \$1'62.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 22 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT \$300 AND DATE OF DEATH OF MEMBER OF 19931231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SRP	PLFOPE	SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
19931231	0					419
200212 1	497		440	725	440	1107

MONTHLY INTEREST INCOME FROM \$250000. IS \$162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEATH OF MEMBER OF 20021231

TABLE 1. FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
20021231	497	0	0	0	497

MONTHLY INTEREST INCOME FROM 1250000. IS 11562.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 16 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE PAGE AMOUNT 301 AND DATE OF DEATH OF MEMBER OF 20021231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	CRP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
20021231	497		100	165	497

MONTHLY INTEREST INCOME FROM 1250000. IS 11662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 22 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT \$1, AND DATE OF DECEASE OF MEMBER OF 20021231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SPP	BEFORE SSA OFFSET	TOTAL BENEFIT
20021231	497		440	457

MONTHLY INTEREST INCOME FROM 12/25/00 IS \$1,62.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 2336 AND DATE OF DEATH OF MEMBER OF 20J21231

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE JSA OFFSET	TOTAL BENEFIT
20021231	497	1204	672	1379

MONTHLY INTEREST INCOME FROM 3200000. IS \$1662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT AND DATE OF DEATH OF MEMBER OF 2012 3 3

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSA BEFORE OFFSET	OFFSET	TOTAL BENEFIT
2012 9 3	497	0	0	497

MONTHLY INTEREST INCOME FROM \$250000. IS \$1562.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 30.4 NC DATE OF DEATH OF MEMBER OF 2012 3 3

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SBP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2012 3 3	497		105	165	407

MONTHLY INTEREST INCOME FROM \$250000. IS \$162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 800 AND DATE OF DEMISE OF MEMBER OF 2012 3 3

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2012 3 3	497	440	440	497

MONTHLY INTEREST INCOME FROM 1250000. IS 31662.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A SUMMARY OF THE SURVIVORS MONTHLY INCOME INCLUDING THE CHANGES TO THAT INCOME AS A RESULT OF THE CHILDREN REACHING AGES 18 AND 23 AND THE SPOUSE, PAMELA REACHING AGE 62.

THIS TABLE BASE AMOUNT 2330 AND DATE OF DEATH OF MEMBER OF 2012 3 3

TOTAL FAMILY MONTHLY BENEFIT SUMMARY

EFFECTIVE DATE	SSA PAYMENT	SSP	BEFORE SSA OFFSET	SSA OFFSET	TOTAL BENEFIT
2012 9 3	497		1200	472	1369

MONTHLY INTEREST INCOME FROM \$250000. IS \$1162.50

FIGURE 4 (continued)

THE FOLLOWING SECTION IS A COST-BENEFIT ANALYSIS OF THE SBP CONSIDERING COST TO THE MEMBER, AMOUNT OF SEP BENEFITS,

COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION

DEGREE OF PARTICIPATION	DATE OF DEATH	TOTAL COST	ACTUAL NON COST	TOTAL BENEFIT	AVERAGE BENEFIT PER MON
0	19931231	0	0	98903	322
300	19931231	300	7	98907	322
300	19931231	2700	57	98903	322
2335	19931231	10132	211	263491	848
0	20021231	0	0	98903	497
300	20021231	1170	7	98973	497
800	20021231	5900	57	98903	497
2335	20021231	32931	211	261491	1319
0	2012 9 3	0	0	41754	497
300	2012 9 3	2607	7	43757	497
800	2012 9 3	10697	57	40757	497
2335	2012 9 3	57630	211	107330	1309

THE SBPOJI FILE IS NOW READY TO BE LISTED FOR JUAN I SANIOS

C. Evaluation of the Computer Model

The computer model presented in this study accomplishes the functions it was meant to perform. It is a far superior method of analysis as compared to the manual methods of calculation. However, there are problem areas and room for improvement.

For this computer program, the problems associated with standardization and efficiency were closely related. Nearly 200 lines of the original computer program were eliminated just by standardizing the program. Due to the time constraints placed upon this study other minor deficiencies were not corrected. Approximately 160 lines are used to read in the file PAYSCALE. Most of these 160 lines could be eliminated by creating a "DO LOOP" that reads in the 21 pay tables. The elimination of the WRITE and FORMAT statements associated with listing the first eight and last four tables of PAYSCALE would also increase efficiency. These 12 tables were originally listed to show that they were read into the computer correctly.

FORTRAN is probably the best computer language to use since it is more widely used than any other computer language and would be available at most bases. Considerable effort was expended just getting the program to run on a CDC 6600 computer. Different computer makes could play a factor in determining just how flexible the computer model is. Problems could develop when first instituting this

computer model at a military installation, but once the program "runs" the only maintenance should be for updating and adding tables to PAYSCALE.

This computer model was formulated to handle the needs of 90 percent of the perspective retirees. The authors of reference 15 thought that eventually the computer model could be progressively enhanced to a level where 100 percent of the needs could be handled. The author of this study feels that 96 to 98 percent would be a more realistic goal. There is a high probability that occasionally a perspective retiree would have a unique problem or situation that could not be solved by the computer model.

The majority of CBPO personnel should require only limited training in entering data into the computer. However, the services of a computer specialist will be needed when the computer model is first established on base and when new or updated tables are added to PAYSCALE.

IV. Private Insurance as an Alternative

Examining the insurance business and the many plans offered is not an objective of this study, however, a brief background is justified. At the end of 1977, the number of life insurance companies in the United States was 1,750 (Ref 3:89). Each company differentiates its product by providing unique plans of insurance (i.e., variations of ordinary life, steady term with increasing premiums, decreasing term with level premiums, family plans, accidental death benefits, etc.) which are available at varying rates depending on the plan chosen. Because changes in life insurance underwriting have occurred in recent years, fewer people are turned down outright for life insurance. However, a health problem or a risky occupation can make the cost virtually prohibitive - three or four times the normal premium, if not more (Ref 7:84). This chapter briefly examines three standard forms of insurance - whole life policies, term policies, and annuities.

Three Forms of Insurance

Whole life insurance furnishes protection for a person's lifetime regardless of how many years premiums are to be paid. Whole life policies accumulate a cash value, which the policyholder can borrow against or draw out if he

or she cancels the policy. A fixed premium is computed according to the age of the policyholder at the time of purchase. In many whole life policies premiums are paid up to a certain age. For example, with a paid-up-at-65 policy the policyholder stops paying premiums at age 65, but the policy remains in force for the person's lifetime. The company charges more than is necessary at the purchase age. The excess goes into a reserve that helps to defray the costs of insuring an individual's life in later years. The reserve and interest it earns create a policy's cash value. The cash value is not added to the policy's face amount. When the policyholder dies, the beneficiary receives only the face amount, not the face amount plus the cash value (Ref 16:38). The table in APPENDIX D illustrates various aspects of a specific \$10,000 whole life policy.

A term policy offers financial protection against the occurrence of death within a given time (one, five, ten, or more years) stated in the policy. The policy has to be renewed at expiration, and the premium is then raised for the next period due to the policyholder's age. Most companies do not sell term policies to persons past the age of 65 or 70 (Ref 16:38). Normally, term policies do not accumulate cash value. Some agents discourage the purchase of a term policy; one reason could be that an agent's commission on term insurance is smaller than the commission on a same amount of cash value insurance.

Since term costs considerably less than whole life, the same premium will buy more term than whole life protection at the start. The premium of the term policy increases with age because the mortality risk of the individual is higher. Some insurance companies offer, at an extra charge, term policies that can be converted into whole life without the policyholder being required a medical examination (Ref 1:17).

Many companies offer combinations of whole life and term policies - frequently referred to as family income plans. The decreasing term portion of the plan pays the beneficiary either a lump sum or a fixed monthly payment for a specified period. For example, a \$300-a-month, 20-year plan would pay a beneficiary \$300 a month during any part of the 20-year period after an individual's death. The value of the whole life portion of the plan can be taken out in a lump sum or used to augment the term income.

The actual cost of a policy can not be judged by premiums alone. Dividends, cash values, and the number of years a policy is in force are contributing factors. As a rough guide, using only premiums, the following table presents what would be reasonably priced whole life policy rates (Ref 16:40).

<u>bought at age</u>	<u>surrendered at the end of:</u>	<u>interest-adjusted costs per \$1,000 face amount</u>	
		<u>dividend paying policies</u>	<u>nondividend paying policies</u>
25	10 years	\$5.22	\$6.00
	20 years	3.68	5.31
35	10 years	6.47	7.68
	20 years	5.41	7.74

Numerous companies offer what they call a "cost-of-living increase" feature in many of their policies. In no way is this feature similar to the automatic CPI adjustment in the SBP. A policy with this feature insures the right to buy more insurance every three years to keep pace with inflation. No medical exam is required. The insurance increase can not be less than \$500 nor more than 20 percent of the face amount or \$20,000 whichever is less (Ref 1:18). This option may be exercised up to age 55.

The maze of annuity plans is just as complex as the labyrinth of whole life and term insurance programs. To offer an insight into annuities, a broad definition of an annuity is given and is followed by presentation of annuity principles. The basic elements of a survivorship annuity are then examined to enable a more direct comparison to the SBP.

An annuity is a periodic payment that commences at a stated or contingent date and is to be continued for a fixed period or for the life or lives of the annuitants (Ref 17:94). The annuitant is the person entitled to receive

of an annuity from an insurer. An annuity can be paid annually, semiannually, quarterly, or monthly, in accordance with the conditions of the agreement. The period of time that elapses between the beginning of the first payment and the end of the last payment is called the term of an annuity. The annuity is an attempt to distribute a sum of money so as to last the annuitant for a definite period or for life (Ref 17:95). Considerations are made not only to the projected life spans of the insured and annuitant, but also how much yearly income the annuitant will need. Insurance companies estimate the number of years a person will live on the same basis they use for life insurance premiums.

There are many classifications of annuities, but the survivorship annuity is the most applicable for comparison with the SBP. The survivorship annuity provides for the payment of annual premiums throughout the lifetime of the insured and for a life income to the beneficiary commencing immediately upon the death of the insured (Ref 17:109). Most policies stipulate that if the annuitant dies before the insured, the policy terminates and the premiums are not refunded. Payments are made to the beneficiary only from the insured's death to the annuitant's death (Ref 17:109).

Three more features of the survivorship annuity are worthy of note. A medical examination is required of the insured, but not the annuitant. A change of beneficiary is

not allowed once the policy goes into effect. Survivorship annuity policies have no cash or loan values (Ref 17:110).

Private insurance costs are taxable, but payments are not. If the benefit payment is received in a lump sum, the proceeds from an investment or interest received from a savings account would be taxable income.

As a final note to this section, there is no such thing as a "best" policy. What might be right for one individual in a specific situation could be completely unsuitable for another individual in a different situation.

Alternatives to the SBP

Can a private insurance plan substitute for the SBP? Because of the many varieties of insurance programs, there are no easy, clear-cut answers. The military member would have to look at private plans that are similar in costs and benefits to specific SBP costs and benefits. Two areas that make a decision difficult should always be considered. First, no insurance plan offers the automatic CPI adjustment that the SBP offers. Second, the member's spouse is faced with the social security offset at age 62 under the SBP. In some cases the offset could completely wipe out the SBP benefit. This section examines several private plans that serve as comparisons to the SBP.

One alternative would be the purchase of decreasing term life insurance at the time the member retires that

would cover the period between retirement and the time the member's spouse reaches age 62. At 62 the spouse would be eligible for social security benefits which are adjusted by the cost of living. The Air Force Times found a company that offers a term insurance policy that provides a \$330 monthly annuity at the following costs (Ref 24:22):

male member retires at age:	cost per month
40	\$35.90
45	39.00
50	43.87
55	44.73

The monthly cost under the SBP for the same annuity amount is \$37.50 regardless of the member's retirement age.

The same company also offers a \$550 monthly annuity at the following costs (Ref 24:22):

male member retires at age:	cost per month
40	\$58.75
45	64.03
50	72.03
55	73.45

At the monthly cost of \$77.50 for the same annuity amount, the SBP is more expensive. The costs and benefits of the SBP rise with the cost of living; the private insurance costs and benefits do not. The SBP payments, although reduced at age 62, continue for the lifetime of the spouse.

Under these specific insurance plans, the private insurance annuity ends when the retiree would have reached age 65.

To examine the two annuities in more detail, TABLES E1 through E4 were developed in APPENDIX E. The development of these tables follow the basic pattern of TABLES 2 and 3 in Chapter II. The tables in APPENDIX E show that the cost/benefit ratios are higher under the SBP than under the given private plans. (Cost/benefit ratios were computed using the real present values.) Between insurance plans, the larger annuity (\$550 monthly) has a smaller cost/benefit ratio. Cost/benefit ratios are lower if an insurance plan is purchased at a younger age. Of course, the SBP payments continue for the life of the surviving spouse, but the SBP payments are also reduced by the social security offset when the spouse reaches age 62.

The Air Force Times found another company that offers an annuity to a male member for the life of his widow. The cost of this plan depends not only on the age of the retiree, but also on the age of his wife. For example, a \$330 monthly annuity has the following monthly costs (Ref 24:22):

male member retires at age:	cost if widow same age:	cost if widow 5 years younger:
40	\$48.13	\$52.05
45	55.15	59.65
50	64.20	69.46
55	75.83	82.05

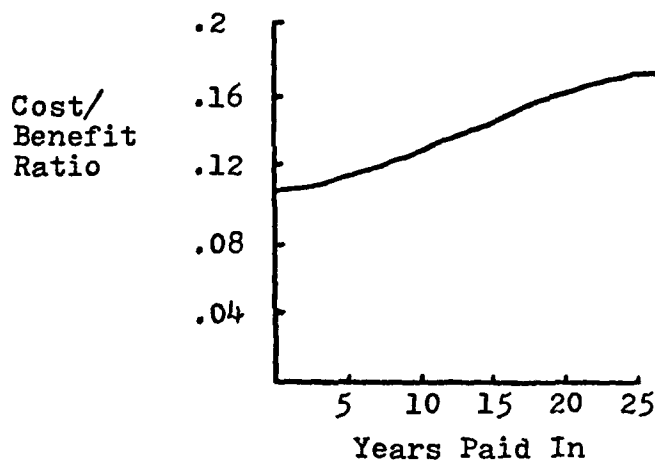
Again in APPENDIX E, TABLE E5 was developed to better analyze this plan. For every case of this plan, the cost/benefit ratios are significantly higher than the cost/benefit ratios of the \$330 annuity insurance plan analyzed in TABLE E2. Comparing this plan to the SBP modeled in TABLE E1, the cost/benefit ratios are higher than the SBP cost/benefit ratios in all of the cases.

The information in this section and in APPENDIX E is somewhat disjointed. In an effort to merge and clarify this information the following graphs are presented. Each graph has its own explanation to further enhance understanding. As a final note, these graphs and accompanying explanations are not complete within themselves for analysis purposes. They have to be studied and evaluated as a group.

GRAPH 4

\$330 Monthly Annuity Under SBP

Assumptions: Discount Rate 6%
CPI 8%

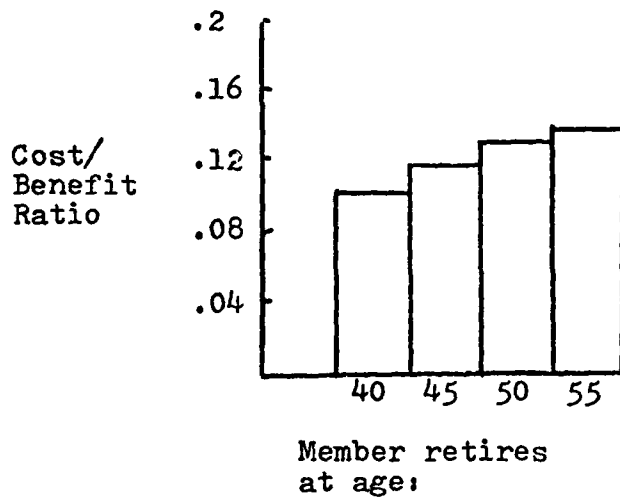


Over the years as a member continues to pay into the SBP, the cost/benefit ratio rises. A member who retires at an older age has his or her cost/benefit ratio rise less than a member who retires at a younger age (assuming both live to the average age expectancy). The cost/benefit ratios are based on real/present value.

GRAPH 5

\$330 Monthly Annuity Under Term Insurance

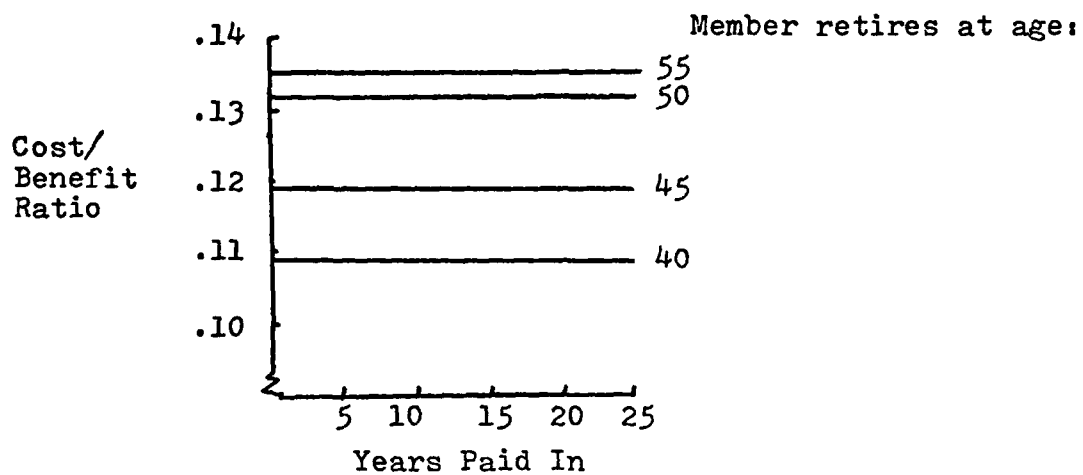
Assumptions: Discount Rate 6%
CPI 8%
Annuity terminates when
spouse's age 62



The cost/benefit ratio under this plan is greater for an older person than for a younger person; this is opposite of the preceding SBP example. However, the ratios for each specific year are lower than the respective ratios under the SBP.

GRAPH 6

Under same plan and assumptions as in GRAPH 5.

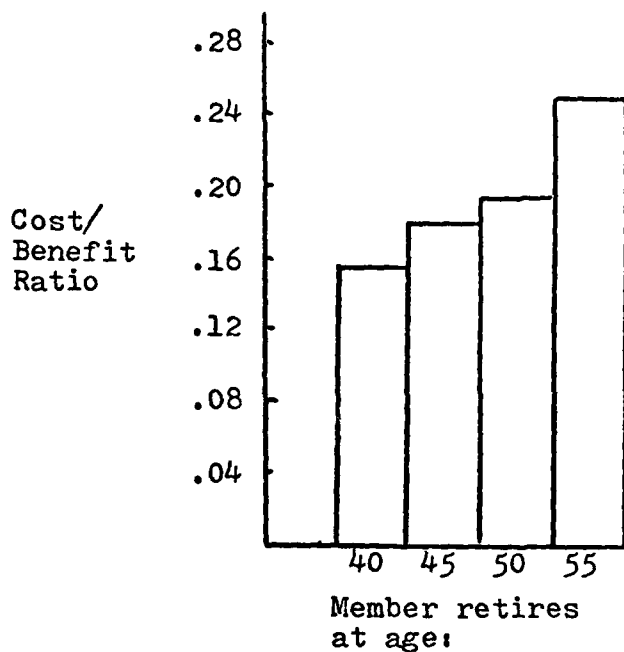


This graph shows that the cost/benefit ratios remain constant over the years due to the absence of a cost-of-living adjustment.

GRAPH 7

\$330 Monthly Annuity Under Survivorship Annuity

Assumptions: Discount Rate 6%
CPI 8%
Spouse is five years
younger than spouse

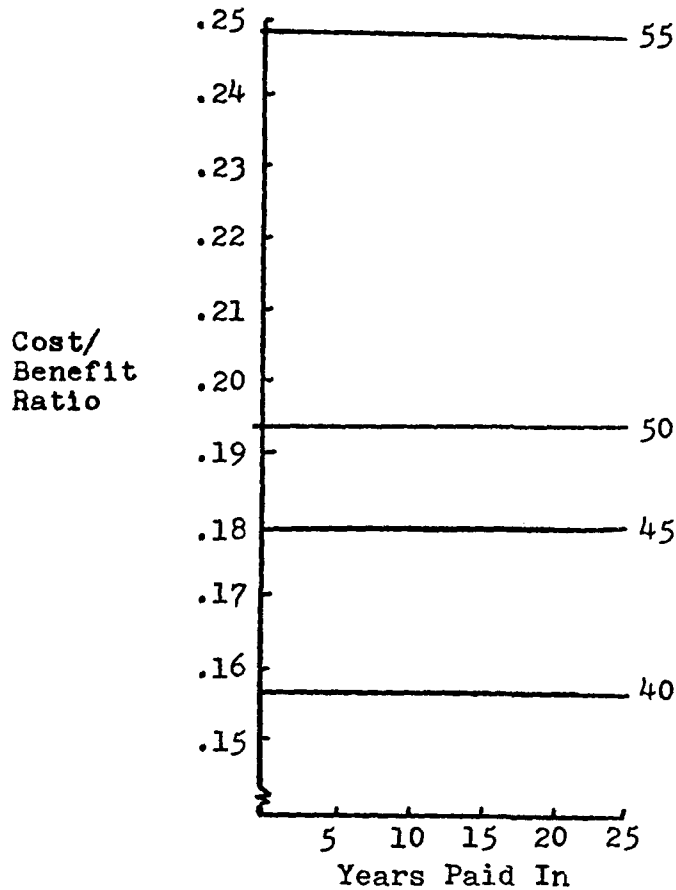


The cost/benefit ratio under this plan is greater for an older person than for a younger person; this is opposite of the SBP example. The significant factor under this plan is that the cost/benefit ratios are greater than the respective ratios under both the SBP and term insurance plans.

GRAPH 8

Under same plan and assumptions as in GRAPH 7.

Member retires at age:



This graph shows that the cost/benefit ratios remain constant over the years due to the absence of a cost-of-living adjustment. Also note the high cost/benefit ratios in comparison with the other plans.

The Case Against Life Insurance

In researching private insurance programs, the author found that some financial experts question the value of life insurance and warn of weaknesses of certain insurance plans. The author in no way intends to show that if private insurance programs are viable alternatives to the SBP that he endorses private insurance programs as a means for a military member to provide protection for his or her beneficiaries. Since not all financial experts disclaim the value of insurance, the author tempers the argument against private insurance plans in an attempt to maintain a degree of objectivity. With this in mind, it is justifiable to present some of the disadvantages of private insurance plans.

Most people buy life insurance for one or more of three reasons: to protect against premature death, to provide income for old age, or to provide a savings account. Many financial experts question the value of the last two reasons. These experts feel that, for several reasons, a person is better off for old age or savings purposes to have an investment program or a savings account at a bank. The objection is not to life insurance as a form of protection, but as an investment or banking function.

To demonstrate the disadvantages of the investment factor of insurance plans, an ordinary life policy initiated at age 35 with an annual premium of \$1000 for a

\$55,000 face amount is considered. For this particular example, the cash surrender value at age is \$28,380.00. Below are the results of investing \$1000 annually at various rates (Ref 33:265-267):

<u>Return rate</u>	<u>at age 65</u>
3%	\$49,002
4%	58,328
5%	69,760
6%	83,811

As can be seen, at the return rates given, an individual acquires considerably more than if "investing" in a life insurance policy. In fact, any of these interest rates can be obtained quite easily from a bank savings account. Of course, the insurance policy provides the beneficiary with \$55,000 of insurance protection for 30 years.

Some insurance policies pay "dividends" and are called "participating" policies. However, these "dividends" are actually refunds to the policyholder for overcharges. These overcharges are held in trust by the company issuing the policy and are returned to the policyholder at stated periods (Ref 33:267). To go a step further, while the company holds the overcharges, its client does not have the funds to invest.

Generally, the younger an individual is, the greater the overcharge. The charges are based on mortality tables that give the likelihood of death per thousand for specific

ages. Statistics are compiled periodically and the mortality tables are updated. New policies issued base the charges on the latest mortality table; however, insurance companies are not required to update charges on old policies (Ref 33:270). Policyholders with older policies continue to pay rates that were based on the mortality table at the time their policies were put into force.

Some insurance companies use the term "net cost." To illustrate how insurance companies present net cost to their customers, a \$10,000 policy is used (Ref 31:272).

Total premiums paid ages 35-65	\$6000.00
(\$200 per year)	
Minus cash value at age 65	<u>5000.00</u>
Net cost	1000.00

Average cost per year ($\$1000/30$ years) = 33.33

However, if the insured died at age 65, the survivors would receive the face amount (\$10,000), not the face amount plus the savings account (\$15,000). The true cost is \$6000 (\$200 X 30 years).

Financial planners' case against life insurance programs as a banking or savings function is particularly strong. By looking at the cash surrender value table at the back of an insurance policy, the policyholder sees that his or her "savings account" is quite small. In fact, the cash surrender value after the first year could be zero. This is due to the agent's commission and other

administrative costs. The yield on the cash reserve in an insurance policy is $2\frac{1}{2}$ to $3\frac{1}{2}$ percent. A person is charged $5\frac{1}{2}$ percent if he or she borrows on the cash reserve of the policy. In other words, the company charges the policyholder to borrow on his or her money.

Two other areas of comparison are liquidity and safety. Most insurance companies have a provision in their policies allowing them to wait a specified length of time to make a loan or surrender the cash value (Ref 33:272). In contrast, money from a savings account is available on demand. In regards to safety, a bank savings account is guaranteed by the Federal Deposit Insurance Corporation (FDIC), whereas the cash reserves in an insurance policy is only as safe as the company. The last two paragraphs are summed up in the following table (Ref 33:277):

	Commercial Bank	Insurance Company
Safety	Guaranteed by FDIC	Only as safe as the company
Yield	$5\%-7\frac{1}{2}\%$	$2\frac{1}{2}\%-3\frac{1}{2}\%$ on cash reserves
Liquidity	On demand	Could wait a specified period
Cost of doing business:		
To deposit	0	10%-55%
To withdraw	0	$4\frac{1}{2}\%-8\frac{1}{2}\%$

The major shortcoming of insurance policies is the absence of a cost-of-living adjustment. The lack of this

provision makes it difficult for an individual to protect his or her beneficiaries from inflation. Insurance companies guarantee money, but not its purchasing power.

The basis of the argument in this section is that an individual will have financially made it by the age of 65, or he or she never will make it. Financial planners that support this contention feel that a person should be self-insured by age 65. By buying term insurance that is much cheaper than whole life insurance for the same amount of coverage, an individual can invest the difference in premiums and still protect beneficiaries against his or her premature death. As a person accumulates an estate, each year the requirements for a specific amount of term insurance should diminish. At the age of 65 term insurance is next to impossible to obtain, but if a person has financially made it there is no need to purchase additional insurance. Put another way, once a person has acquired a desired total estate, he or she is self-insured.

The author feels that the case against life insurance has many viable points. The major difficulty would be the determination of what would be a suitable estate to set as a goal. With the high rate of inflation what would maintain a family today might not fully provide for a family in the future. Another factor would be the form of investment. Here, the individual not only seeks a fair or high rate of return, but also a safe or secure investment.

Chapter IV Summary

As possible alternatives to the SBP, three forms of insurance plans were briefly examined - whole life policies, term policies, and annuities. Both the SBP and insurance plans have favorable features when compared to the other.

Favorable Features of Insurance Plans

1. Cost/benefit ratios are lower. These ratios decrease as the annuity increases as opposed to the SBP cost/benefit ratios that increase as the annuity amount increases.
2. Benefits are not offset for social security.
3. Costs remain fixed and tend to be lower if the policy is purchased at a younger age as compared to the same benefits under the SBP.
4. Benefits are not taxable.

Favorable Features of the SBP

1. Benefits are adjusted for inflation.
2. No medical exam is required to participate.
3. Costs are not taxable.
4. No administrative costs to institute or sustain participation.

Just because a particular insurance plan may compare favorably with the SBP does not mean it is void of deficiencies. Most insurance plans have inherent faults or weaknesses whether compared to another investment plan or

not. These inherent deficiencies are reviewed below.

1. Return rates on insurance policies are low. A person could do better with a savings account.

2. Insurance policies that pay "dividends" are actually refunding overcharges. While the overcharges are held by the company, the policyholder can not invest the funds.

3. Insurance companies do not update premiums to reflect changes in the mortality tables.

The various features of both the SBP and insurance plans affect each individual in different ways and degrees depending on the individual's own unique circumstances. A more indepth analysis of these factors and other factors are presented in Chapter V.

V. Conclusions and Recommendations

If a military member knew when he or she was going to die, it would be much easier to make a decision regarding SBP participation. If a member died soon after retirement, SBP participation would be very worthwhile. The surviving spouse would receive more in benefits than what the member paid in costs. If a member has a long life, the surviving spouse would probably get far less than what the member paid in.

There is no correct answer on whether or not to participate in the SBP unless the individual knows when he or she will die. Military members must consider their own unique situation, know how much they want to leave survivors, and the strengths and weaknesses of various retirement programs. In addition, inflation, social security offset, and taxes deserve attention. As an aid in making a decision, the author lists the advantages and disadvantages of the SBP, as compared to life insurance alternatives.

Advantages of the SBP

1. A perspective military retiree may elect to participate regardless of age, physical condition (no physical examination is required), or insurability. For those unable

to acquire life insurance at standard rates, it is a desirable program.

2. At the minimum base amount of \$300, the \$7.50 monthly premium to provide a \$165 monthly annuity is extremely low. No insurance company can compete with this option.

3. A surviving spouse is guaranteed a minimum income during unremarried lifetime and the annuity is adjusted upward by increases in the CPI.

4. Costs are deductible from income for federal tax purposes.

5. Military finance centers administer the program and there are no administrative costs or charges (Ref 18:R18).

6. For coverage of spouse and dependent children, the charge for additional coverage of the children is minimal and stops when the children are no longer eligible for benefits.

Disadvantages of the SBP

1. Participation in the SBP at the maximum base amount is automatic unless the base is reduced or participation is declined in writing at least 30 days prior to retirement.

2. If a surviving spouse remarries before age 60, eligibility for further SBP benefits is terminated.

3. The benefit of a surviving spouse with just one dependent child will be reduced by 50 percent of the social security entitlement due to the member's military service.

4. When the surviving spouse reaches age 62, the SBP benefit is reduced by 100 percent of the social security entitlement due to the member's military service. The emphasis here is that the offset is deducted whether the social security payment is actually received or not. As the social security entitlement increases due to the CPI, the offset also increases.

5. As the CPI increases, the cost of the SBP also increases due to the resultant increase of the base amount. For increases above the first \$300 portion of the base amount, the charge is 10 percent.

6. SBP benefits are taxable as income to the beneficiary.

7. The SBP benefit is a monthly annuity only; it provides no estate.

8. The cost/benefit ratio increases with increases in the amount of coverage.

Family History and Actuarial Tables

Another area worthy of investigation is the member's family history. Significant insight into one's own longevity can be achieved by examining the health and life spans of relatives, living and dead. Studying current actuarial

tables can also increase a person's knowledge in projecting or estimating the length of one's own natural life.

Conditions When SBP Participation is Favorable

The author of this study believes that there are three cases in which participation in the SBP is unquestionably the wise decision. These three cases are listed and explained below.

a. The retiring member who definitely knows or feels that there is a high probability that he or she will die shortly after retirement should participate in the SBP. In this situation, the member's contribution to the SBP is small compared to the benefits received by the surviving spouse. For example, suppose the member retires at age 42 and dies at age 45. If the surviving spouse is 42 years old at the member's death SBP payments, adjusted upward due to inflation, are received for 20 years without any reduction from the social security offset.

b. If the retiring member's health is such that he or she could not pass the physical required for purchasing an insurance policy, then participation in the SBP would be sagacious. As previously stated, no physical is required to join the SBP. All retiring members are eligible, regardless of health or age.

c. If the retiree wants to completely avoid the hassles of taking physicals, periodically paying premiums, and

filling out insurance forms, then the SBP is the route to go. Under the SBP, the required documents are accomplished just once, approximately 30 days prior to retirement. Premiums are taken directly from the retiree's paycheck.

Conclusions

Every member has to evaluate his or her own situation regarding participation in the SBP. What is good for one person could be completely inappropriate for another. Making an informed decision is the key factor. A close examination of the SBP coupled with an investigation of various private insurance programs should be made before a final decision is made.

Most of the basic SBP features compare favorably with the basic elements of similar insurance plans. However, in the author's opinion, the 100 percent social security offset is the weak link in the SBP chain. In many cases, the offset nearly or completely wipes out the SBP benefit. Why should an individual pay for a benefit that might not ever be received? In effect, the offset feature of the SBP makes private insurance plans viable alternatives, or at the least, worthy of closer scrutiny.

Though the author feels that certain private insurance programs are viable alternatives to the SBP, the consumer should be aware of the serious shortcomings of insurance plans highlighted in the last section of Chapter IV. One

course of action that could be worthwhile is a combination of the SBP, a private insurance policy, and personal savings and investments. Such a combination could lessen some of the disadvantages of the SBP and insurance plans. Personal investments and savings could decrease the degree to which the SBP and insurance are needed. By joining the SBP at a lower base amount the cost/benefit ratio is lower. Any lowering of insurance needs would lower costs significantly and would free more funds for savings or investment.

This thesis does not give a definite answer in terms of a numerical quantity of just how much the SBP benefits the military retiree. The SBP is an excellent insurance device from the time the member retires from active service until the member's death. However, no numerical value can measure its true value. As has been previously stated, each individual has to judge the SBP on its own merits within the constraints imposed by his or her own unique situation. The degree of desire a member possesses to protect beneficiaries also plays a vital role in the relevancy of the SBP. This study bears no pertinence for the member not wanting to provide for loved ones.

Areas for Further Study

In accomplishing this study, the author felt that there were three areas in which further research would be instrumental in measuring the true merit of the SBP.

1. What effect would a 50 percent social security offset have on improving the SBP and thus luring more members to participate in the program? Two specific facets to look at would be the cost/benefit ratios and the time needed for the surviving spouse to receive what the deceased member had paid in.

2. Improvement of the computer model in two ways:

a. Further enhancement of the existing model in terms of efficiency and standardization. Improvements in these two areas would facilitate its implementation at various military installations.

b. Once a high degree of efficiency has been achieved, further development of the model would progressively eliminate the constraints. This would allow the model to solve a wider range of problems, therefore serving the needs of more members.

3. This study was limited to a narrow view of insurance alternatives. A more in-depth and broader research effort would enable a larger spectrum of insurance programs to be studied in detail. This could serve as a base from which the member could initiate and direct his or her own search for an applicable plan.

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APPENDIX A
(Ref 12:55)

If money can be invested at an annual interest rate, i , then an initial amount of money, A_0 , will grow to an amount, P , in n years, as given by the compound interest equation:

$$P = A_0(1 + i)^n \quad \text{EQA1}$$

Rewriting the equation as:

$$A_0 = \frac{P}{(1 + i)^n} \quad \text{EQA2}$$

defines the present value of P .

Assume that inflation occurs at an annual rate, r , and that money is not invested. This year a given sum of money, A_0 , will purchase an amount of goods worth A_0 , but by next year the same amount of money will have decreased in purchasing power to some lesser amount P . This relationship is expressed by the following equation:

$$P = \frac{A_0}{(1 + r)^n} \quad \text{EQA3}$$

where P represents the purchasing power of A_0 . Rewritten, this becomes:

$$A_0 = P(1 + r)^n \quad \text{EQA4}$$

where A_0 is the amount of money required to sustain a given level of purchasing power for any future year.

Assuming that an amount of money, A_0 , is invested at an interest rate, i , and inflation occurs at a rate, r , the amount of money required to maintain a given purchasing power, P , can be determined by combining equations EQA2 and EQA4 as follows:

$$A_0 = \frac{P(i + r)^n}{(1 + i)^n} \quad \text{EQA5}$$

To demonstrate the sustaining of purchasing power for future years starting from an initial amount of money, or an initial investment, EQA5 can be rewritten as:

$$P = \frac{A_0(1 + i)^n}{(1 + r)^n} \quad \text{EQA6}$$

The last two equations represent the discrete case for annual rates of i and r with annual compounding. In the continuous case, EQA5 becomes $A_0 = Pe^{(r-i)n}$ and EQA6 becomes $P = A_0e^{(i-r)n}$. The continuous equations would be valid approximations to the discrete equations for very small (e.g., daily) values of i , continuous (e.g., daily) compounding of interest, and large values of n (e.g., $n = 365$) for daily compounding over a year.

Although the rate of inflation is calculated monthly and given in annual rates, it is actually determined by a continuous case for frequent compounding (e.g., monthly or more often). Though erratic, the rate of inflation and

rate of return on investments can be considered essentially continuous processes. In many cases, the combined effects of inflation and return on investment can be easily determined from continuous approximations of EQA5 and EQA6.

Inflation is reflected in the purchasing power of consumers' money through changes in the CPI, which is a measure of the inflation rate. Though the rate of inflation is determined by a continuous process, the CPI is determined monthly and adjustments to the SBP are made only when the CPI increases to a value, over a three month period, of at least three percent above a level determined as of the immediately previous CPI adjustment. It seems reasonable to assume that, over a long period of time, CPI adjustments will be made to the SBP at intervals long enough to make the assumptions regarding the continuous equations that approximate EQA5 and EQA6 invalid. Thus, for the purposes of this discussion, the discrete EQA5 and EQA6 are utilized where PV (the present value discount factor) and CPI (the annual rate of inflation) are substituted for i and r respectively to yield:

$$A_0 = \frac{P(1 + \text{CPI})^n}{(1 + \text{PV})^n} \quad \text{EQA7}$$

$$P = \frac{A_0(1 + \text{PV})^n}{(1 + \text{CPI})^n} \quad \text{EQA8}$$

Rewriting EQA7:

$$A_0 = P / \left(1 + \frac{\text{PV} - \text{CPI}}{1 + \text{CPI}}\right) \quad \text{EQA9}$$

or equivalently,

$$A_0 = P/(1 + PPV) \quad \text{EQA10}$$

where PPV is the present purchasing value of money factor, which determines the present amount of money to maintain a given level of purchasing power. A_0 in EQA10 is defined as the real present value (RPV) of P.

So far this discussion has been based entirely on information contained in Reference 12. Reference 12 only considered cases where the CPI was less than or equal to the PV. Therefore, the following equation was used:

$$PPV = \frac{PV - CPI}{1 + CPI} \quad \text{EQA11}$$

However, the author of this study feels it is important to consider cases where the CPI is greater than the PV. Negative values of the PPV result when the CPI is greater than the PV. The negative values of the PPV increase the real present values of costs and benefits as the CPI increases and the PV remains constant. This is contrary to what really occurs, the disparity between the real present values and absolute values should continue to increase. By placing absolute value signs around the numerator of EQA11, the equation in Chapter II, denoted as EQ6, is formulated:

$$PPV = \frac{|PV - CPI|}{1 + CPI}$$

After examining several cases where the CPI increased while the PV was held constant, the author found that the real present value of costs and benefits declined in relation to the absolute costs and benefits. This is what actually happens when inflation increases and the discount rate remains the same. For this reason, the author believes EQ6 is valid for the purposes of this study.

APPENDIX B

TABLES 2 and 3 show how CPI increases and changes in the present value of money affect the base amount, costs, and benefits of the SBP. Base amounts (BA) of \$300 and \$500 are used with a 6% discount rate. The social security offset is disregarded. Four annual rates of the CPI are assumed (0.0, 4.0, 6.0, and 8.0%). Each column is discussed in detail below.

Col 1 - Year 0 represents year of retirement. Each number after 0 corresponds to the number of years of participation in the SBP.

Col 2 - $BA_n = BA_0(1.0 + i)^n$

where i is the CPI rate, n is the year being considered, and BA_0 is the base amount originally elected. This equation determines the adjusted monthly base amount which is used to compute a cost and benefit for a future year n .

Col 3 - This column reflects the monthly cost in year n for the base amount corresponding to the same year in column 2.

$$Cost_n = (7.50 + .1(BA_n - 300))$$

Col 4 - This column gives the monthly benefit to be received by a spouse after the death of the retiree.

$$\text{Benefit}_n = 0.55\text{BA}_n$$

Since TABLES 2 and 3 do not consider the social security offset, this column is not applicable to a beneficiary age 62 or greater.

Col 5 - This column represents the year 0 real present value (RPV) of the monthly cost (Col 3) for year n using the present purchasing value (PPV) factor.

$$\text{Cost(RPV)} = \text{Cost}_n / (1.0 + \text{PPV})^n$$

where

$$\text{PPV} = \frac{|\text{PV} - \text{CPI}|}{1 + \text{CPI}}$$

and n is the particular year being considered.

Col 6 - This column represents the year 0 RPV of the monthly benefit (Col 4), considering the PPV factor.

$$\text{Benefit(RPV)} = \text{Benefit}_n / (1.0 + \text{PPV})^n.$$

This column is not applicable to a beneficiary of age 62 or greater.

APPENDIX C

Maximum Earnings Covered by Social Security

<u>YEAR</u>	<u>MAX EARNINGS</u>
1951	3,600
1952	3,600
1953	3,600
1954	3,600
1955	4,200
1956	4,200
1957	4,200
1958	4,200
1959	4,800
1960	4,800
1961	4,800
1962	4,800
1963	4,800
1964	4,800
1965	4,800
1966	6,600
1967	6,600
1968	7,800
1969	7,800
1970	7,800
1971	7,800
1972	9,000
1973	10,800
1974	13,200
1975	14,100
1976	15,300
1977	16,500
1978	17,700
1979	22,900
1980	25,900
<u>1981</u>	<u>29,700</u>

The maximum amount of annual earnings that count for social security will rise automatically after 1981 as earnings levels increase. Because of this, the base in 1982 and later may be higher than \$29,700 (Ref 29:5).

APPENDIX D
(Ref 16:39)

The table shows the cash values, dividends, and death benefits produced by a \$10,000 whole life policy. The annual premium is \$167.40 for a man of age 25. The dividends have been projected for 20 years. The total death benefit I column combines the \$10,000 of the original policy and the face amounts of the paid-up additions that could be purchased with all the projected dividends. The total death benefit II column shows the amount of insurance the man would have by using a different dividend option plan: buying 1-year term equal to the cash value of the \$10,000 and the paid-up additions with any of the dividend money left-over. Term costs less than the paid-up cash value additions, so each dividend dollar buys more coverage.

end of year	guaranteed cash value	annual dividend	total paid-up additions	cash value of paid-up additions	total death benefit I	total death benefit II
1	\$ 0	\$ 6	\$ 16	\$ 6	\$10,016	\$10,016
2	70	12	49	18	10,049	10,118
3	200	18	98	36	10,098	10,296
4	350	24	162	61	10,162	10,509
5	490	30	244	94	10,244	10,728
6	640	36	340	134	10,340	10,971
7	790	43	453	183	10,453	11,229
8	950	49	581	239	10,581	11,512
9	1,110	56	724	305	10,724	11,809
10	1,270	62	882	379	10,882	12,119
11	1,410	69	1,055	463	11,055	12,423
12	1,550	72	1,234	554	11,234	12,733
13	1,700	75	1,422	651	11,422	13,058
14	1,850	79	1,616	756	11,616	13,390
15	2,000	82	1,818	869	11,818	13,726
16	2,160	91	2,037	994	12,037	14,088
17	2,310	94	2,264	1,128	12,264	14,444
18	2,470	98	2,499	1,270	12,499	14,816
19	2,630	102	2,741	1,422	12,741	15,192
20	2,790	105	2,992	1,583	12,992	15,573

APPENDIX E

TABLE E1

\$330 Monthly Annuity: SBP

Assumptions: Discount Rate 6%
CPI 8%

Yr	Base	Cost	Benefit	Cost (RPV)	Benefit (RPV)	Cost Benefit Ratio
0	\$600.00	\$ 37.50	\$330.00	\$37.50	\$330.00	.113+
1	636.00	41.10	349.80	40.35	343.44	.117+
5	802.94	57.79	441.62	52.72	402.91	.130+
10	1074.51	84.95	590.98	70.72	491.91	.143+
15	1437.93	121.29	790.86	92.11	600.57	.153+
20	1924.28	169.93	1058.35	117.73	733.25	.160+
25	2575.12	235.01	1416.32	148.55	895.24	.165+

TABLE E2

\$330 Monthly Annuity: Term Insurance Plan

Assumptions: Discount Rate 6%
CPI 8%

Annuity terminates when spouse's age 62.

For all cases:	Yr	Benefit(RPV)
	0	\$330.00
	1	324.00
	5	301.07
	10	274.68
	15	250.60
	20	228.63
	25	208.59

male member
retires at age:

	40		45		50		55	
YR	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)
0	\$35.90	\$35.90	\$39.00	\$39.00	\$43.87	\$43.87	\$44.73	\$44.73
1	35.90	35.25	39.00	38.29	43.87	43.07	44.73	43.92
5	35.90	32.75	39.00	35.58	43.87	40.02	44.73	40.07
10	35.90	29.88	39.00	32.46	43.87	36.52	44.73	37.23
15	35.90	27.26	39.00	29.62	43.87	33.31		
20	35.90	24.87	39.00	27.07				
25	35.90	22.69						

Cost/Benefit Ratios:

.108+

.118+

.132+

.135+

TABLE E3

\$550 Monthly Annuity: SBP

Assumptions: Discount Rate 6%
CPI 8%

Yr	Base	Cost	Benefit	Cost (RPV)	Benefit (RPV)	Cost Benefit Ratio
0	\$1000.00	\$77.50	\$550.00	\$77.50	\$550.00	.140+
1	1080.00	85.50	594.00	83.95	583.20	.143+
5	1469.33	124.43	808.13	113.52	737.29	.153+
10	2158.93	193.39	1187.41	160.97	988.35	.162+
15	3172.17	294.72	1744.69	223.81	1324.90	.168+
20	4660.96	443.60	2563.53	307.34	1776.07	.173+
25	6848.48	662.35	3766.66	418.66	2380.86	.175+

TABLE E4

\$550 Monthly Annuity: Term Insurance Plan

Assumptions: Discount Rate 6%
CPI 8%
Annuity terminates when spouse's age 62.

For all cases:	Yr	Benefit(RPV)
	0	\$550.00
	1	540.00
	5	501.78
	10	457.80
	15	417.67
	20	381.05
	25	347.65

male member
retires at age:

	40		45		50		55	
Yr	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)
0	\$58.75	\$58.75	\$64.03	\$64.03	\$72.03	\$72.03	\$73.45	\$73.45
1	58.75	57.68	64.03	62.87	72.03	70.72	73.45	72.11
5	58.75	53.60	64.03	58.42	72.03	65.72	73.45	67.01
10	58.75	48.90	64.03	53.30	72.03	59.95	73.45	61.14
15	58.75	44.61	64.03	48.62	72.03	54.70		
20	58.75	40.70	64.03	44.36				
25	58.75	37.14						

Cost/Benefit Ratios:

.106+ .116+ .130+ .133+

TABLE E5

\$330 Monthly Annuity: Survivorship Annuity

Assumptions: Discount Rate 6%
CPI 8%

For all cases:	Yr	Benefit(RPV)
	0	\$330.00
	1	324.00
	5	301.07
	10	274.68
	15	250.60
	20	228.63
	25	208.59

male member

retires at age:

Spouse same age as member

	40		45		50		55	
Yr	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)
0	\$48.13	\$48.13	\$55.15	\$55.15	\$64.20	\$64.20	\$75.83	\$75.83
1	48.13	47.25	55.15	54.15	64.20	63.03	75.83	74.45
5	48.13	43.91	55.15	50.32	64.20	58.57	75.73	69.18
10	48.13	40.06	55.15	45.90	64.20	53.44	75.83	63.12
15	48.13	36.55	55.15	41.88	64.20	48.75	75.83	57.58
20	48.13	33.35	55.15	38.21	64.20	44.48	75.83	52.54
25	48.13	30.42	55.15	34.86	64.20	40.58	75.83	47.93

Cost/Benefit Ratios:

.145+

.167+

.194+

.229+

Spouse 5 years younger than member

Yr	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)	Cost	Cost (RPV)
0	\$52.05	\$52.05	\$59.65	\$59.65	\$69.46	\$69.46	\$82.05	\$82.05
1	52.05	51.10	59.65	58.57	69.46	68.20	82.05	80.56
5	52.05	47.49	59.65	54.42	69.46	63.37	82.05	74.86
10	52.05	43.32	59.65	49.65	69.46	57.82	82.05	68.30
15	52.05	39.53	59.65	45.30	69.46	52.75	82.05	62.31
20	52.05	36.06	59.65	41.33	69.46	48.12	82.05	56.85
25	52.05	32.90	59.65	37.70	69.46	43.90	82.05	51.86

Cost/Benefit Ratios:

.157+

.180+

.194+

.248+

APPENDIX F

Computer Listing - SBP and Subroutines


```

PROGRAM SEP(INPUT,OUTPUT,TAPE3,TAPE5=INPUT,TAPE6=OUTPUT)
IMPLICIT INTEGER (A-Z)
COMMON CIVARS,CIVYRS,IAME,IING,INDEX,INLYR,IOVER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LWY3,MILYRS,MULT,RETP,RETG,ABRT
COMMON DAY1(4),COST(4),EFFD(3),ITEMP(50),ITEMPI(50),MDOR(3),
1 PERD(3),RETR(7),TCIV(54),TP2(33),FSUMP(50),WDOB(3)
COMMON ANAL(4,12),AGT(28,13),DETH(4,3),KDOO(19,3),PHST(25,6),
1 TSS(112,3),TRN(12,2),IDFTH(4,3),MX(62,2)
COMMON WOLF(12),BENE(8,7,12),DAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MNAM,FNAM,MI,SSN,WNAM,KNAM4,
1 KNAME,KNAM5,KNAM7,KNAM8,KNAM9,KNAM10
REAL CUST,LING,LINS
1ETM=0
CIVARS=0
CIVYRS=0
IAME=0
ITRC=0
INDEX=0
INLYR=0
IOVER=0
IPIA=1
JOVER=0
LASTYR=0
LWY3=0
LIPSE=0
LOWYRS=0
MILYRS=0
MULT=1
RETP=0
ABRT=0
IPIA=0
LINS=0.0
CALL CINIT (0,EFFD,3)
CALL CINIT (0,MDOR,3)
CALL CINIT (0,RETR,3)
CALL CINIT (0,WDOB,3)

```

```

CALL CINIT (0, WTLF, 12)
CALL CINIT (0, PAY, 4)
CALL CINIT (0, COST, 4)
CALL CINIT (0, PER, 3)
CALL CINIT (" ", TP1, 24)
CALL CINIT (0, IP2, 30)
CALL CINIT (0, IE4F, 6)
CALL CINIT (0, IE4PI, 50)
CALL CINIT (0, IE4PI, 50)
CALL CINIT (0, CIV, 50)
CALL CINIT (0, ISU4P, 10)
CALL CINIT (0, APAL, 40)
CALL CINIT (0, Y4, 24)
CALL CINIT (0, DE14, 12)
CALL CINIT (0, DE14, 12)
CALL CINIT (0, WMX, 13)
CALL CINIT (0, OCT, 54)
CALL CINIT (0, XDO9, 30)
CALL CINIT (0, ISS, 31)
CALL CINIT (0, FHS1, 150)
CALL CINIT (0, RNE, 50)
CALL CINIT (0, PAY, 12075)

```

NOKIDS=0

```

345 CONTINUE
READ (31, 510) ITEM, NO, TITL1
DO 10 I=1, 23
  READ (31, 520) ITEM, TP1(I)
10 CONTINUE
READ (31, 510) ITEM, NO, TITL2
DO 15 I=1, 30
  READ (31, 520) ITEM, TP2(I)
15 CONTINUE
READ (31, 520) ITEM, NO, TITL3
DO 20 I=1, 12
  READ (31, 520) ITEM, (TBN(I,J), J=1, 2)
20 CONTINUE

```

```

READ (31, 930) ITEM, NO, TITL4
DO 25 I=1,21
  READ (31, 935) ITEM, (ACT(I,J),J=1,13)
25 CONTINUE
READ (31, 940) ITEM, NO, TITL5
DO 35 I=1,105
  READ (31, 945) ITEM, (TSS(I,J),J=1,3)
35 CONTINUE
READ (31, 950) ITEM, NO, TITL6
DO 35 I=1,65
  READ (31, 955) ITEM, (WMX(I,J),J=1,2)
35 CONTINUE
READ (31, 960) ITEM, NO, PAY(1,18,1), PAY(1,19,1),
1  PAY(1,21,1), PAY(1,21,1)
DO 45 I=1,23
  READ (31, 965) ITEM, (PAY(I,J,1),J=1,8)
  READ (31, 970) ITEM, (PAY(I,J,1),J=3,15)
45 CONTINUE
READ (31, 980) ITEM, NO, PAY(1,18,2), PAY(1,19,2),
1  PAY(1,21,2), PAY(1,21,2)
DO 45 I=1,23
  READ (31, 985) ITEM, (PAY(I,J,2),J=1,8)
  READ (31, 990) ITEM, (PAY(I,J,2),J=3,15)
45 CONTINUE
READ (31, 995) ITEM, NO, PAY(1,18,3), PAY(1,19,3),
1  PAY(1,21,3), PAY(1,21,3)
DO 55 I=1,23
  READ (31, 998) ITEM, (PAY(I,J,3),J=9,15)
  READ (31, 997) ITEM, (PAY(I,J,3),J=3,15)
55 CONTINUE
READ (31, 990) ITEM, NO, PAY(1,18,4), PAY(1,19,4),
1  PAY(1,21,4), PAY(1,21,4)
DO 55 I=1,23
  READ (31, 998) ITEM, (PAY(I,J,4),J=1,8)
  READ (31, 997) ITEM, (PAY(I,J,4),J=3,15)
55 CONTINUE

```

```

      READ (31, 956) ITEM, NO, PAY(1,18,5), PAY(1,19,5),
1      PAY(1,20,5), PAY(1,21,5)
      DO 61 I=1,23
        READ (31, 955) ITEM, (PAY(I,J,5), J=1,8)
        READ (31, 970) ITEM, (PAY(I,J,5), J=3,15)
60 CONTINUE
      READ (31, 957) ITEM, NO, PAY(1,18,6), PAY(1,19,6),
1      PAY(1,20,6), PAY(1,21,6)
      DO 62 I=1,23
        READ (31, 956) ITEM, (PAY(I,J,6), J=1,8)
        READ (31, 970) ITEM, (PAY(I,J,6), J=3,15)
61 CONTINUE
      READ (31, 968) ITEM, NO, PAY(1,18,7), PAY(1,19,7),
1      PAY(1,20,7), PAY(1,21,7)
      DO 70 I=1,23
        READ (31, 955) ITEM, (PAY(I,J,7), J=1,8)
        READ (31, 970) ITEM, (PAY(I,J,7), J=3,15)
70 CONTINUE
      READ (31, 969) ITEM, NO, PAY(1,18,8), PAY(1,19,8),
1      PAY(1,20,8), PAY(1,21,8)
      DO 71 I=1,23
        READ (31, 955) ITEM, (PAY(I,J,8), J=1,8)
        READ (31, 970) ITEM, (PAY(I,J,8), J=3,15)
71 CONTINUE
      READ (31, 956) ITEM, NO, PAY(1,18,9), PAY(1,19,9),
1      PAY(1,20,9), PAY(1,21,9)
      DO 80 I=1,23
        READ (31, 955) ITEM, (PAY(1,J,9), J=1,8)
        READ (31, 970) ITEM, (PAY(1,J,9), J=3,15)
80 CONTINUE
      READ (31, 956) ITEM, NO, PAY(1,18,10), PAY(1,19,10),
1      PAY(1,20,10), PAY(1,21,10)
      DO 81 I=1,23
        READ (31, 955) ITEM, (PAY(I,J,10), J=1,8)
        READ (31, 970) ITEM, (PAY(I,J,10), J=3,15)
81 CONTINUE

```

```

      READ (31, 950) ITEM, NO, PAY(1,18,11), PAY(1,19,11),
1      PAY(1,20,11), PAY(1,21,11)
      DO 90 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,11),J=1,8)
      READ (31,970) ITEM,(PAY(I,J,11),J=9,15)
90 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,12), PAY(1,19,12),
1      PAY(1,20,12), PAY(1,21,12)
      DO 95 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,12),J=1,8)
      READ (31,970) ITEM,(PAY(I,J,12),J=9,15)
95 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,13), PAY(1,19,13),
1      PAY(1,20,13), PAY(1,21,13)
      DO 100 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,13),J=1,8)
      READ (31,970) ITEM,(PAY(I,J,13),J=9,15)
100 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,14), PAY(1,19,14),
1      PAY(1,20,14), PAY(1,21,14)
      DO 105 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,14),J=1,8)
      READ (31,970) ITEM,(PAY(I,J,14),J=9,15)
105 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,15), PAY(1,19,15),
1      PAY(1,20,15), PAY(1,21,15)
      DO 110 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,15),J=1,8)
      READ (31,970) ITEM,(PAY(I,J,15),J=9,15)
110 CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,16), PAY(1,19,16),
1      PAY(1,20,16), PAY(1,21,16)
      DO 115 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,16),J=1,8)
      READ (31,970) ITEM,(PAY(I,J,16),J=9,15)
115 CONTINUE

```

```

1      READ (31, 950) ITEM, NO, PAY(1,18,19), PAY(1,19,20),
      PAY(1,20,21), PAY(1,21,22)
      DO 120 I=1,23
      READ (31, 950) ITEM, (PAY(I,J,17),J=1,6)
      READ (31,971) ITEM,(PAY(I,J,17),J=9,15)
120  CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,18), PAY(1,19,18),
      PAY(1,20,18), PAY(1,21,18)
      DO 125 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,18), J=1,8)
      READ (31,971) ITEM,(PAY(I,J,18),J=9,15)
125  CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,19), PAY(1,19,19),
      PAY(1,20,19), PAY(1,21,19)
      DO 130 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,19),J=1,8)
      READ (31,971) ITEM,(PAY(I,J,19),J=9,15)
130  CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,20), PAY(1,19,20),
      PAY(1,20,20), PAY(1,21,20)
      DO 132 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,20),J=1,8)
      READ (31,971) ITEM,(PAY(I,J,20),J=9,15)
132  CONTINUE
      READ (31, 950) ITEM, NO, PAY(1,18,21), PAY(1,19,21),
      PAY(1,20,21), PAY(1,21,21)
      DO 134 I=1,23
      READ (31, 955) ITEM, (PAY(I,J,21),J=1,8)
      READ (31,971) ITEM,(PAY(I,J,21),J=9,15)
134  CONTINUE
      FORMAT (2I3,1X,A10)
      FORMAT (I3,A4)
      FORMAT (2I3,1X,A10)
      FORMAT (2I3)
      FORMAT (2I3,1X,A10)
      FORMAT (I3,2I2)

```

```

930 FORMAT (2I3,1X,A17)
931 FORMAT (3I3,2I2,I3,2I2,I3,2I2,I3,2I2)
940 FORMAT (2I4,1X,A17)
941 FORMAT (I4,3I5)
950 FORMAT (I3,I4,1X,A10)
951 FORMAT (I3,I5,I6)
960 FORMAT (3I3,2I2,I3)
961 FORMAT (I3,3I5)
970 FORMAT (I3,7I3)
    WRITE (6,371) TITL1, (TP1(I),I=1,23)
    WRITE (6,372) TITL2, (TP2(I),I=1,30)
    WRITE (6,373) TITL3, ((TSN(I,J),J=1,2),I=1,12)
    WRITE (6,374) TITL4
    DO 100 I=1,28
    WRITE (6,375) (ACT(I,J),J=1,13)
100 CONTINUE
150 WRITE(4,976) TITL5
    DO 155 I=1,105
    WRITE (6,977) (TSS(I,J),J=1,3)
155 CONTINUE
    WRITE (6,973) TITL6
    DO 160 I=1,35
    WRITE (6,973) (WMX(I,J),J=1,2)
160 CONTINUE
C WRITE TITL 7
    WRITE (6,980) (PAY (1,J,1),J=18,21)
    DO 165 I=1,23
    WRITE (6,981) (PAY (I,J,1),J=1,15)
165 CONTINUE
C WRITE TITL 8
    WRITE (6,981) (PAY (1,J,2),J=18,21)
    DO 170 I=1,23
    WRITE (6,981) (PAY (I,J,2),J=1,15)
170 CONTINUE
C WRITE TITL 24
    WRITE (6,983) (PAY (1,J,18),J=13,21)

```

```

DO 250 I=1,23
WRITE (5,501) (PAY(I,J,10),J=1,15)
250 CONTINUE
C WRITE TITL 25
WRITE (6,901) (PAY(1,J,19),J=13,21)
DO 255 I=1,23
WRITE (6,901) (PAY(I,J,19),J=1,15)
255 CONTINUE
C WRITE TITL 25
WRITE (5,901) (PAY(1,J,20),J=13,21)
DO 260 I=1,23
WRITE (6,901) (PAY(I,J,21),J=1,15)
260 CONTINUE
971 FORMAT (7X,A10,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,
1 2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,
1 2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,
1 2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/,2X,A4,/)
972 FORMAT (7X,A10,/,2X,20I3,/,10I3,/)
973 FORMAT (7X,A10,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,
1 2X,2I2,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,2X,2I2,/,
1 2X,2I2,/,2X,2I2,/)
974 FORMAT (7X,A11,/)
975 FORMAT (2X,2I3,2I2,I3,2I2,I3,2I2,I3,2I2)
976 FORMAT (4X,A10)
977 FORMAT (2X,3I3)
978 FORMAT (6X,A10)
979 FORMAT (2X,I9,I0)
980 FORMAT (50X,3I2,2X,I3)
981 FORMAT (2X,3I3,/,7I5)
982 FORMAT (5,300) ITEM, MNAM, FNAM, MI, (MDOB(I),I=1,3), SSN
READ (5,301) ITEM, MNAM, (WDOB(I),I=1,3)
READ (5,302) ITEM, MNAM1, (KDOB(1,I),I=1,3)
READ (5,303) ITEM, MNAM2, (KDOB(2,I),I=1,3)
READ (5,304) ITEM, MNAM3, (KDOB(3,I),I=1,3)
READ (5,305) ITEM, MNAM4, (KDOB(4,I),I=1,3)
READ (5,306) ITEM, MNAM5, (KDOB(5,I),I=1,3)

```



```

READ (5,305) ITEM,KNAM5,(KDO8(5,I),I=1,3)
PEAC (5,306) ITEM,KNAM7,(KDO8(7,I),I=1,3)
READ (5,307) ITEM,KNAM8,(KDO8(3,I),I=1,3)
READ (5,308) ITEM,KNAM9,(KDO8(3,I),I=1,3)
READ (5,309) ITEM,KNAM10,(KDO8(10,I),I=1,3)
READ (5,310) ITEM,(PEBD(I),I=1,3),REIG
READ (5,311) ITEM,(PEBD(I),I=1,3),BAMT(3)
READ (5,312) ITEM,CIVANE,CIVYRS
READ (5,313) ITEM,LINS,NOKIDS
READ (5,314) ITEM,AX,A1,A2,2X,3I2,2X,I9)
305 FORMAT (I3,A10,5X,A10,A2,2X,3I2,2X,I9)
306 FORMAT (I3,A10,3I2)
307 FORMAT (2I3,2I2,A4)
308 FORMAT (2I3,2I2,2X,I4)
309 FORMAT (I3,I5,2X,I2)
310 FORMAT (I3,I7,2X,I2)
DO 401 I=1,25
READ (5,420) ITEM,(PHST(I,J),J=1,3),PGRD
IF (PHST(I,1).EQ.0) GO TO 430
DO 401 K=1,24
IF (PGRD.EQ.TP1(K)) GO TO 403
IF (K.EQ.24) GO TO 440
GO TO 401
400 PHST(I,4) = K
GO TO 410
401 CONTINUE
410 CONTINUE
420 FORMAT(2I3,2I2,A4)
430 DO 450 I=1,25
IF (I.EQ.25) GO TO 460
IF (PHST(I,1).EQ.0) GO TO 435
PHST(I,5)=((PHST(I,1)-PEBD(1))*12+PHST(I,2))-PEBD(2)
II=I+1
IF (PHST(II,1).EQ.0) GO TO 440
PHST(I,6)=(PHST(II,1)-PHST(I,1))*12+PHST(II,2)-PHST(I,2)
GO TO 450
435 IF (I.EQ.25) GO TO 460

```

```

GO TO 460
440 PHST(I,5)=((PEIN(1)-PHST(I,1))'12+PEIN(2))-PHST(I,2)
450 CONTINUE
460 WRITE(6,470) 4NAM, 4NAM, MI, SSN, (MDOP(I), I=1,3), WNAM,
1 (WDOB(I), I=1,3), 4NAM, NOKIDS, KNAM1, (KDOB(I,1), I=1,3),
1 4NAM, (FETD(I), I=1,3), RETG, 3AMT(3), (PEBD(I), I=1,3), LINS
470 FORMAT (X, "MEMBER BEING PROCESSED IS", 2X, A10, 5X, A10, A2, //,
1 5X, "SSN", 1X, 5X, "DOB", 312, // 5X, "SPOUSE NAME IS", A10,
1 " WITH DOB ", 2X, 312, // 5X, 10, "HAS", 1X, 12, "CHILDREN",
1 " THE YOUNGEST BEING", 1X, A10, " WITH DOB OF", 2X, 312, //,
1 5X, A10, " PLANS TO RETIRE", 2X, 312, 2X, "IN THE GRADE OF ",
1 4X, // 5X, "HE HAS SELECTED A BASE AMOUNT OF ", 2X, I4, //,
1 5X, "HIS PAY ENTRY BASE DATE IS ", 312, " AND HE HAS ",
1 "LEFT INSURANCE IN", // 5X, "THE AMOUNT OF $", F7.0)
GO TO 282
480 WRITE(6,435)
490 FORMAT(5X, "POTENTIAL PROBLEM-----T21 EXHAUSTED",
1 " IN READ STMT WITHOUT FINDING AN INDEX. SEE DO LOOP 410")
GO TO 283
490 WRITE(6,435)
495 FORMAT(5X, "POTENTIAL PROBLEM-----P1ST EXHAUSTED AND NOT",
1 " GOTTEN AN AUTOMATIC TRANSFER OUT OF DO LOOP. SEE",
1 " DO LOOP 450.")
GO TO 283
262 CONTINUE
CALL SNETP
IF (ABRT.EQ.1) GO TO 285
CALL SCOST
IF (ABRT.EQ.1) GO TO 285
CALL SDETH
IF (ABRT.EQ.1) GO TO 285
CALL SBENE
IF (ABRT.EQ.1) GO TO 285
CALL SOFST
IF (ABRT.EQ.1) GO TO 285
CALL SSSRN

```

```
IF (ABRT.EQ.1) GO TO 285  
CALL SIINC  
IF (ABRT.EQ.1) GO TO 285  
CALL SANAL  
IF (ABRT.EQ.1) GO TO 265  
CALL SPRINT  
285 STOP  
END
```

```
SUBROUTINE CIVIT (X,A,Y)
  INTEGER X,Y
  DIMENSION A(Y)
  DO 10 I=1,Y
    10 A(I)=X
  RETURN
  END
```

```

SUPRCUTINE 3R,ETP
IMPLICIT INTEGER (A-Z)
COMMON CIV415,CIV415,CIV415,IAME,IINC,INDEX,INIYR,IOWER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LJWYR,MILYRS,MULT,RETP,RETG,ABRT
COMMON BART(4),COST(1),EFFD(3),ITEMP(50),ITEMP1(50),MDOB(3),
1 PERD(3),RETI(3),TCIV(50),TP2(3),TSUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),JETH(4,3),KQGR(13,3),WMX(6,2)
1 TSS(115,3),TBN(12,2),TDEFH(1,3),MMX(6,2)
COMMON WOLF(12),BENT(8,7,12),PAY(23,21,25),T01(24),ITEMPI(50)
COMMON TERM,NOKIDS,MAM,FNAM,MI,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KRM7,KNAM8,KNAM9,KNAM10
REFL COST,LINC,LIN:
INDEX=1
1005 IF (RETG.EQ.TP1(INDEX)) GO TO 1010
INDEX=INDEX+1
1F(INDEX.GT.23) GO TO 1075
GO TO 1035
1010 I=INDEX
IRET01=RETD(1)
IRET02=RETD(2)
IRET03=RETD(3)
1015 IF ((IRET03-PERD(3)).GE.0) GO TO 1020
IRET02=IRET02-1
IRET03=IRET03+30
GO TO 1015
1020 ATLMP3=IRET03-PERD(3)
1025 IF ((IRET02-PERD(2)).GE.0) GO TO 1030
IRET01=IRET01-1
IRET02=IRET02+12
GO TO 1025
1030 IF MP2=IRET02-PERD(2)
ITEMP4=IRET01-PERD(1)
1F (ITEMP4.GT.30) ITEM4=30
J=TP2(ITEMP4)
1F(ITEMP2.GE.5) GO TO 1035
MULT=ITEMP4

```

```

1035 GO TO 1040
1036 MULT=ITEMP4+1
1040 INDEX=25
1045 IF (PAY(I,J,INDEX).EQ.0) GO TO 1050
1050 TPAY=PAY(I,J,INDEX)
1055 EFFD(1)=PAY(1,18,INDEX)
1060 EFFD(2)=PAY(1,19,INDEX)
1065 EFFD(3)=PAY(1,21,INDEX)
1070 GO TO 1085
1080 INDEX=INDEX-1
1085 IF (INDEX.LE.0) GO TO 1085
1090 GO TO 1045
1095 RETP=(TPAY*MULT*25)/1000
1100 GO TO 1035
1105 WRITE(6,1081)
1110 FORMAT (5X,"PROBLEM---REIG DOES NOT MATCH TP1 MATRIX",
1120 1 " --SEE STATEMENT 1005 OF SRETP")
1130 GO TO 1100
1135 WRITE(6,1080)
1140 FORMAT (5X,"PROBLEM---CANNOT DETERMINE MULTIPLIER FOR",
1150 1 " RETIRED PAY. SEE SMT 1040-1045 OF RETP.")
1160 GO TO 1100
1165 RETURN
1170 STOP
1175 END

```

```

SUBROUTINE SCOST
IMPLICIT INTEGER (A-Z)
COMMON C1VARS, CTYPES, IAME, LINC, INDEX, INIYR, IOVER, IPIA,
1 JOVER, LASTYR, LINE, LINS, LJOYR, MILYRS, MULT, RETP, RETG, ARRT
COMMON BANT(4), COST(4), EFFD(3), ITEMPI(50), ITEMPI(50), MDOB(3),
1 PERD(3), RETD(3), TCIV(50), T02(30), TSUMP(50), WDOB(3)
COMMON ANAL(4,12), ACT(28,13), DETH(4,3), KDOB(13,3), PHST(25,5),
1 ISS(105,3), TPN(12,2), TDETH1(4,3), WMX(6,2)
COMMON WIDLF(12), BENF(8,7,12), PAY(23,21,25), TP1(24), ITEMPI(50)
COMMON TERM, NOKIDS, MIAM, FNAME, MI, SSN, WNAME, KNAME1, KNAME2, KNAME3, KNAME4,
1 KNAME, KNAME5, KNAME7, KNAME8, KNAME9, KNAME10
REAL COST, LINC, LINS
COST(1)=0
BANT(1)=1
IF (RETP.LT.3) GO TO 1210
BANT(2)=300
COST(2)=7.0
BANT(4)=RETP
COST(4)=7.0+0.1*(RETP-300)
COST(3)=7.0+0.1*(BANT(3)-300)
GO TO 1220
1210 BANT(2)=RETP
COST(2)=0.025*RETP
COST(3)=COST(2)
COST(4)=COST(2)
BANT(3)=RETP
BANT(4)=RETP
1220 RETURN
END

```

```

SURROUTINE SDETH
IMPLICIT INTEGER (A-Z)
COMMON CIVAME,CIVYRS,IAME,IINC,INDEX,INIYR,IOWER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LWYR3,MILYRS,MULT,RETP,RETG,ABRT
COMMON BAMI(4),COST(4),EFFD(3),ITEMP(50),ITEMP1(50),MDOB(3),
1 PEBD(3),RETD(3),TCIV(50),TP2(30),TSUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),DETH(4,3),KDOF(10,3),PHST(25,6),
1 TSS(115,3),TEN(12,2),TDEFH1(4,3),WMX(55,2)
COMMON WIDLF(12),BENF(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NXTTDS,MNAM,FNAM,MI,SSN,WMAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
REAL COST,LINC,LINS
DETH(1,1)=1330+RETD(1)+4
DETH(1,2)=RETD(2)
DETH(1,3)=RETD(3)
IAGE=RETD(1)-MDOB(1)
JAGE=RETD(1)-WDOB(1)
IAGE1=IAGE-34
JAGE1=JAGE-34
IF (IAGE1.LT.1) IAGE1=1
IF (JAGE1.LT.1) JAGE1=1
I=1
1305 IF (PETG.EQ.TP1(I)) GO TO 1310
I=I+1
IF (I.GT.23) GO TO 1350
GO TO 1305
1310 IF (I.GT.14) GO TO 1312
INDEX1=2
INDEX2=3
INDEX3=4
INDEX4=8
INDEX5=9
INDEX6=10
GO TO 1315
1312 INDEX1=5
INDEX2=6

```



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INDEX3=7
INDEX4=11
INDEX5=13
INDEX6=12
131F TDE T31=ACT(IAGE1,INOFX1)
TDE T32=ACT(IAGE1,INOFX2)
TDE T33=ACT(IAGE1,INOFX3)
TDE T41=ACT(JAGE1,INOFX4)
TDE T-2=ACT(JAGE1,INOFX5)
TDE T43=ACT(JAGE1,INOFX6)
TDE TH1(3,1)=TDE T31+MDOB(1)+1900
TDE TH1(3,2)=TDE T32+MDOB(2)
TDE TH1(3,3)=TDE T33+MDOB(3)
TDE TH1(4,1)=TDE T41+MDOB(1)+1900
TDE TH1(4,2)=TDE T42+MDOB(2)
TDE TH1(4,3)=TDE T43+MDOB(3)
IF (TDE TH1(3,3).LE.3) GO TO 1320
TDE TH1(3,3)=TDE TH1(3,3)-30
TDE TH1(3,2)=TDE TH1(3,2)+1
1320 IF (TDE TH1(3,2).LE.12) GO TO 1325
TDE TH1(3,2)=TDE TH1(3,2)-12
TDE TH1(3,1)=TDE TH1(3,1)+1
1325 OETH(3,1)=TDE TH1(3,1)
OETH(3,2)=TDE TH1(3,2)
OETH(3,3)=TDE TH1(3,3)
IF (TDE TH1(4,3).LE.3) GO TO 1330
TDE TH1(4,3)=TDE TH1(4,3)-30
TDE TH1(4,2)=TDE TH1(4,2)+1
1330 IF (TDE TH1(4,2).LE.12) GO TO 1335
TDE TH1(4,2)=TDE TH1(4,2)-12
TDE TH1(4,1)=TDE TH1(4,1)+1
1335 OETH(4,1)=TDE TH1(4,1)
OETH(4,2)=TDE TH1(4,2)
OETH(4,3)=TDE TH1(4,3)
OETH(2,1)=(OETH(3,1)+OETH(1,1))/2
OETH(2,2)=OETH(1,2)

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```

      DETH(2,3)=DETH(1,3)
      RETURN
1340 WRITE (6,1355)
1355 FORMAT (5X,"PROBLEM---HAVE RUN THROUGH GRADE MATRIX,"
1      " 34, AND HAVE NO MATCH FOR RETG. SEE SDETH",
1      " IN VICINITY OF STATEMENT 1305.")
      STOP
      END

```

```

SUBROUTINE SBENF
  IMPLICIT INTEGER (A-Z)
  COMMON CIVARS,CIVYRS,IAME,IINC,INDEX,INIYR,IQVR,IPIA,
  1 JOVER,LASTYR,L'NE,LINS,LJWYR,MILYRS,MULT,RETP,RETG,ABRT
  COMMON BMT(4),COST(1),EFFD(3),ITEMP(50),ITEMPI(50),MD08(3),
  1 PE9D(3),RETD(3),ICLV(50),TP2(30),ISUMP(50),WD08(3)
  COMMON ANAL(4,12),ACT(26,13),DETH(4,3),KD08(10,3),PHST(25,6),
  1 TSS(195,3),TBN(12,2),TDETH1(1,3),WMX(65,2)
  COMMON WDLF(12),BENE(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
  COMMON TERM,NOKIDS,MNAM,FNAM,MI,SSN,WMAM,KNAM1,KNAM2,KNAM3,KNAM4,
  1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
  REAL COST,KID110,KID119,KID223,KID310,KID323,DETH1,SP062,KID123,
  1 IINC,LINS
  K=1
1510 IFLAG=0
  IFLAG1=0
  IFLAG2=0
  ICC0F1=0
  ICCDE2=0
  ICCDE3=0
  ICCDE4=0
  ICCDE5=0
  ICCDE6=0
  ICCDE7=0
  ICCDE8=0
  ICCDE9=0
  KID118=0.0
  KID123=0.0
  KID218=0.0
  KID223=0.0
  KID318=0.0
  KID323=0.0
  DETH1=0.0
  SP062=0.0
  IND=TBN(K,1)
  BNC=TBN(K,2)

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```

1520 DO 1521 I=1,6
      BENE(I,2,K)=(B*MT(IND)*35)/107
      CONTINUE
      DETH1=DETH(IND,1)+(DETH(IND,2)*30)/365
      SPC62=WDOB(1)+1974+62+(WDOB(2)*30)/365
      IF(KDOB(1,1).EQ.0) GO TO 1525
      KIF118=1976+KDOB(1,1)+18+(KDOB(1,2)*30)/365
      KI(123)=KID118+5.0
      IF(KDOB(2,1).EQ.0) GO TO 1530
      KIP218=1976+KDOB(2,1)+18+(KDOB(2,2)*30)/365
      KID223=KID218+5.0
      IF(KDOB(3,1).EQ.0) GO TO 1535
      KIP318=1976+KDOB(3,1)+18+(KDOB(3,2)*30)/365
      KID323=KID318+5.0
      IFLAG1=3
      GO TO 1540
1525 IFLAG1=0
      GO TO 1540
1530 IFLAG1=1
      GO TO 1540
1535 IFLAG1=2
1540 IF(SPO2.GT.DETH1) GO TO 1570
      IF(IFLAG1.EQ.0) GO TO 1555
      IF(IFLAG1.EQ.1) GO TO 1550
      IF(KID223.LT.DETH1) GO TO 1550
      BENE(3,4,K)=DETH(IND,1)-1900
      BENE(3,5,K)=DETH(IND,2)
      BENE(3,6,K)=DETH(IND,3)
      IF(KID123.EQ.KID223) GO TO 1545
      ICODE3=1
      ICODE4=1
      GO TO 1840
1545 ICODE3=1
      GO TO 1840
1550 IF(KID123.GT.DETH1) GO TO 1550
1555 ICODE1=1

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```

1568 GO TO 1840
      CODE2=1
      CODE3=1
      GO TO 1840
1570 IF (IFLAG1.EQ.0) GO TO 1580
      IF (IFLAG1.EQ.1) GO TO 1575
      GO TO 1615
1575 IF (KID123.GT.DETH1) GO TO 1585
1580 CODE5=1
      CODE6=1
      GO TO 1842
1585 IF (KID118.GT.DETH1) GO TO 1600
      BENE(5,4,K)=DETH(INN,1)-1900
      BENE(5,5,K)=DETH(INN,2)
      BENE(5,6,K)=DETH(INN,3)
      IF (KID123.LT.SPO52) GO TO 1590
1588 CODE7=1
      CODE8=1
      GO TO 1840
1590 CODE8=1
      CODE9=1
      GO TO 1845
1600 BENE(6,4,K)=DETH(INN,1)-1900
      BENE(6,5,K)=DETH(INN,2)
      BENE(6,6,K)=DETH(INN,3)
1603 IF (KID118.LT.SPO62) GO TO 1605
      GO TO 1583
1605 BENE(5,4,K)=KJDR(1,1)+18
      BENE(5,5,K)=KJDR(1,2)
      BENE(5,6,K)=KJDR(1,3)
1610 IF (KID123.LT.SPO62) GO TO 1590
      GO TO 1588
1615 IF (IFLAG1.EQ.2) GO TO 1520
      IF (KID118.EQ.KID218) GO TO 1630
      IF (KID218.EQ.KJDR13) GO TO 1550
      GO TO 1830

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1620 IF (KID118.EQ.KID218) GO TO 1630
GO TO 1735
1630 IF (KID218.EQ.KID318) GO TO 1635
GO TO 1700
1635 IF (KID123.GT.DETH1) GO TO 1645
GO TO 1580
1645 BENE(3,4,K)=DETH(IND,1)-1900
BENE(8,5,K)=DETH(IND,2)
BENE(8,6,K)=DETH(IND,3)
IF (KID123.GT.SFO62) GO TO 1653
GO TO 1593
1650 ICCDE9=1
ICCDE3=1
GO TO 1840
1660 IF (KID223.LT.DETH1) GO TO 1675
BENE(8,4,K)=DETH(IND,1)-1900
BENE(8,5,K)=DETH(IND,2)
BENE(8,6,K)=DETH(IND,3)
IF (KID223.LT.SFO52) GO TO 1665
1662 ICCDE9=1
ICCDE4=1
ICCDE3=1
GO TO 1840
1665 IF (KID223.LT.KID118) GO TO 1670
BENE(5,4,K)=KID3(2,1)+23
BENE(5,5,K)=KID3(2,2)
BENE(5,6,K)=KID3(2,3)
GO TO 1616
1670 BENE(6,4,K)=KID3(2,1)+23
BENE(6,5,K)=KID3(2,2)
BENE(6,6,K)=KID3(2,3)
GO TO 1673
1680 IF (KID113.GT.DETH1) GO TO 1690
BENE(7,4,K)=DETH(IND,1)-1900
BENE(7,5,K)=DETH(IND,2)
BENE(7,6,K)=DETH(IND,3)

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GO TO 1720
1690 BENE(8,4,K)=DETH(IN,1)-1900
    BENE(8,5,K)=DETH(IN,2)
    BENE(8,6,K)=DETH(IN,3)
    IF (KID113.LT.SPO52) GO TO 1695
    GO TO 1656
1695 BENE(7,4,K)=KDOA(1,1)+18
    BENE(7,5,K)=KDOA(1,2)
    BENE(7,6,K)=KDOA(1,3)
    GO TO 1720
1700 IF (KID323.LT.DETH1) GO TO 1681
    BENE(8,4,K)=DETH(IN,1)-1900
    BENE(8,5,K)=DETH(IN,2)
    BENE(8,6,K)=DETH(IN,3)
    IF (KID323.LT.SPO52) GO TO 1711
    GO TO 1650
1710 BENE(7,4,K)=KDOA(3,1)+23
    BENE(7,5,K)=KDOA(3,2)
    BENE(7,6,K)=KDOA(3,3)
    IF (KID123.LT.SPO52) GO TO 1599
    GO TO 1650
1730 IF (KID223.LT.DETH1) GO TO 1575
    IF (KID213.LT.DETH1) GO TO 1780
    BENE(8,4,K)=DETH(IN,1)-1900
    BENE(8,5,K)=DETH(IN,2)
    BENE(8,6,K)=DETH(IN,3)
    IF (KID118.LT.SPO52) GO TO 1753
    IF (KID223.LT.SPO52) GO TO 1583
    GO TO 1662
1750 IF (KID113.LT.KID223) GO TO 1751
    BENE(6,4,K)=KDOA(2,1)+23
    BENE(6,5,K)=KDOA(2,2)
    BENE(6,6,K)=KDOA(2,3)
    BENE(5,4,K)=KDOA(1,1)+18
    BENE(5,5,K)=KDOA(1,2)
    BENE(5,6,K)=KDOA(1,3)

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1F (KID123.LI.SP052) GO TO 1593
GO TO 1598
1760 BEHE(7,4,K)=K00R(1,1)+18
BEHE(7,5,K)=K00R(1,2)
PENE(7,6,K)=K00R(1,3)
1765 1F (KID223.LI.SP052) GO TO 1770
GO TO 1662
1770 BEHE(5,4,K)=K00R(2,1)+23
BEHE(5,5,K)=K00R(2,2)
PENE(5,6,K)=K00R(2,3)
1F (KID123.LI.SP052) GO TO 1593
GO TO 1588
1730 1F (KID118.GI.DETH1) GO TO 1793
BEHE(7,4,K)=DETH(IND,1)-1900
BEHE(7,5,K)=DETH(IND,2)
PENE(7,6,K)=DETH(IND,3)
GO TO 1705
1790 BEHE(3,4,K)=DETH(IND,1)-1900
BEHE(8,5,K)=DETH(IND,2)
BEHE(8,6,K)=DETH(IND,3)
GO TO 1700
1830 1F (KID323.LI.DETH1) GO TO 1730
BEHE(8,4,K)=DETH(IND,1)-1900
BEHE(3,5,K)=DETH(IND,2)
BEHE(3,6,K)=DETH(IND,3)
1F (KID318.GI.DETH1) GO TO 1832
1F (KID218.GI.DETH1) GO TO 1823
1F (KID118.GI.DETH1) GO TO 1823
1F (KID323.LI.SP052) GO TO 1810
GO TO 1662
1815 BEHE(7,4,K)=K00R(3,1)+23
BEHE(7,5,K)=K00R(3,2)
PENE(7,6,K)=K00R(3,3)
GO TO 1705
1820 1F (KID323.LI.SP052) GO TO 1740
GO TO 1662

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1830 IF (KID323.LT.SP062) GO TO 1743
GO TO 1832
1840 IF (ICODE1.EQ.0) GO TO 1845
GENE(1,4,K)=DETH(IN0,1)-1900
GENE(1,5,K)=DETH(IN0,2)
GENE(1,6,K)=DETH(IN0,3)
1845 IF (ICODE2.EQ.0) GO TO 1850
GENE(2,4,K)=DETH(IN0,1)-1900
GENE(2,5,K)=DETH(IN0,2)
GENE(2,6,K)=DETH(IN0,3)
1850 IF (ICODE3.EQ.0) GO TO 1855
GENE(1,4,K)=K003(1,1)+23
GENE(1,5,K)=K003(1,2)
GENE(1,6,K)=K003(1,3)
1855 IF (ICODE4.EQ.0) GO TO 1860
GENE(2,4,K)=K003(2,1)+23
GENE(2,5,K)=K003(2,2)
GENE(2,6,K)=K003(2,3)
1860 IF (ICODE5.EQ.0) GO TO 1865
GENE(4,4,K)=DETH(IN0,1)-1900
GENE(4,5,K)=DETH(IN0,2)
GENE(4,6,K)=DETH(IN0,3)
1865 IF (ICODE6.EQ.0) GO TO 1870
GENE(1,4,K)=W003(1)+F2
GENE(1,5,K)=W003(2)
GENE(1,6,K)=W003(3)
1870 IF (ICODE7.EQ.0) GO TO 1875
GENE(2,4,K)=W003(1)+F2
GENE(2,5,K)=W003(2)
GENE(2,6,K)=W003(3)
1875 IF (ICODE8.EQ.0) GO TO 1880
GENE(4,4,K)=K003(1,1)+23
GENE(4,5,K)=K003(1,2)
GENE(4,6,K)=K003(1,3)
1880 IF (ICODE9.EQ.0) GO TO 1890
GENE(3,4,K)=W003(1)+F2

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      BENE(3,5,K)=WDOQ(2)
      PEHE(3,6,K)=WDCQ(3)
1690  K=K+1
      IF (K.GT.12) GO TO 1900
      GO TO 1510
1900  RETURN
      END
```

```

SUCPOUINE SOFST
IMPLICIT INTEGER (A-Z)
COMMON CIVA12,CIVYRS,IAME,IINC,INDEX,INIYR,IOVER,IPIA,
JOVER,LASTYR,LINE,LINS,LWYR,MILYRS,MULT,RETP,REIG,ABRT
COMMON BAY1(4),COST(1),EFFD(3),ITEMP(50),ITEMPI(50),MDOB(3),
PEBD(3),RETO(3),TCIV(50),IP2(30),ISUMP(50),MUOR(3)
COMMON ANAL(4,12),ACT(25,13),DETH(1,3),KDOB(10,3),PHST(25,6),
ISS(100,3),TEN(12,2),TOETH1(4,3),WMX(6,2)
COMMON WDLF(12),BENE(8,7,12),PAY(23,21,25),IP1(24),ITEMPI(50)
COMMON TERM,NOKTOS,MNAM,FNAM,M1,SSN,MNAM,KNAM1,KNAM2,KNAM3,KNAM4,
KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
REAL COST,LINC,LINS
LASTYR=MOOR(1)+61+1900
INIYR=(MOOR(1)+22+1000)*12+MDOB(2)
IF (INIYR.LT.((PHST(1,1)+1900)*12+PHST(1,2))) GO TO 2010
GO TO 2015
2010 INIYR=(PHST(1,1)+1900)*12+PHST(1,2)
2015 IF (INIYR.LT.1951*12) INIYR=1951*12
INDEX=LASTYR-1956
IF (INDEX.LE.35) GO TO 2020
GO TO 2025
2020 INDEX=INDEX-35
2025 IFPD=((RETO(1)+1970)*12+RETO(2))-INIYR/12
IX=INDEX-IFPD
LWYR=
IF (IX.LE.0) LWYR=IX*(-1)
IF (INIYR.LT.(1957*12)) GO TO 2030
INIYR1=INIYR
GO TO 2035
2030 INIYR1=1957*12
2035 IO=1
2040 IF((PHST(10,1)+1970)*12+PHST(10,2)).GT.INIYR1 GO TO 2045
IO=IO+1
IF (IO.GT.25) GO TO 3070
GO TO 2040

```

```

2045 ID=ID-1
   IF (ID.LT.1) ID=1
   IDAT1=(PHST(ID,1)+1000)*12
   IDAT2=PHST(ID,2)
   IF (INIR1.LE.(IDAT1+IDAT2)) GO TO 2050
   JFAC=INIR1-(IDAT1+IDAT2)
2050 ITLG=PHST(ID,6)-JFAC
   KFOG=PHST(ID,5)+JFAC
   II=PHST(ID,4)
   JFOG=KFOG/12
   IF (JFOG.LT.1) JFOG=1
   IF (JFOG.GT.30) JFOG=30
   JJ=TP2(JFOG)
   KK=1
2055 IF ((PAY(1,18,KK)+1900)*12+PAY(1,19,KK)).GT.INIR1) GO TO 2057
   KK=KK+1
   IF (KK.GT.25) GO TO 2080
   GO TO 2055
2056 KK=KK-1
   IF (KK.LT.1) KK=1
   IF (INIR1.LE.((PAY(1,18,KK)+1300)*12+PAY(1,19,KK))) GO TO 2057
   KFA=INIR1-(PAY(1,18,KK)+1300)*12+PAY(1,19,KK)
   GO TO 2058
2057 KFA=0
2058 IFL=PAY(1,21,KK)-KFA
   KKK=1
2059 IF (IMX(KKK,1)*12).GT.INIR1) GO TO 2060
   KKK=KKK+1
   IF (KKK.GT.95) GO TO 3090
   GO TO 2059
2060 KKK=KKK-1
   IF (KKK.LT.1) KKK=1
   LINE=1
   N=1
   TSUMF(LINE)=0
2062 TSUMF(LINE)=TSUMF(LINE)+PAY(II,JJ,KK)

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```

2065 N=N+1
      KFCG=KFCG+1
      IF (M.GT.12) GO TO 2065
      GO TO 2080
2065 TSUM=TSUM+(LINE)+120
      IF (TSUM.LT.WYX(KKK,2)) GO TO 2073
      ITMP(LINE)=WYX(KKK,2)
      GO TO 2075
2073 ITMP(LINE)=TSUM
2075 N=1
      LINE=LINE+1
      KKK=KKK+1
2080 JFCG=KFCG/12
      IF (JFCG.LT.1) JFCG=1
      IF (JFCG.GE.30) JFCG=30
      JJ=JP2(JFCG)
      ITIG=ITIG-1
      IFD=IFD-1
      IF (ITIG.LE.0) GO TO 2096
2082 IF (IFD.LE.0) GO TO 2085
      GO TO 2062
2085 KK=KK+1
      IFD=PAY(1,21,KK)
      GO TO 2062
2090 JJ=JC+1
      ITIG=PHST(IJ,5)
      II=PHST(ID,4)
      IF (ITIG.LE.0) GO TO 3000
      GO TO 2032
3000 IF (M.LT.12) GO TO 3005
      GO TO 3010
2100 TSUM(LINE)=0
      LINE=LINE-1
      LTAG=0
3010 IF (LINE.LE.INDEX) LTAG=1
      DO 3020 N=1,LINE

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```

ITEMP1(N)=ITEMP(N)
3020 CONTINUE
JFLAG=0
3021 I1=1
I2=2
3025 IF (ITEMP1(I1).LE.ITEMP1(I2)) GO TO 3027
N1=ITEMP1(I1)
N2=ITEMP1(I2)
ITEMP1(I1)=N2
ITEMP1(I2)=N1
JFLAG=1
3027 I1=I1+1
I2=I2+1
IF (I2.LE.LINE) GO TO 3025
IF (JFLAG.EQ.0) GO TO 3029
JFLAG=0
GO TO 3021
3029 IF (LTAG.EQ.1) GO TO 3035
IOVER=0
DO 3033 N=1,LOWR
IOVER=IOVER+ITEMP1(N)
3030 CONTINUE
GO TO 3043
3035 IOVER=0
3040 ISUMP=0
DO 3045 N=1,LTNE
ISUMP=ISUMP+ITEMP1(N)
3045 CONTINUE
IAME=(ISUMP-IOVER)/(INDEX*12)
I=1
3050 IF (IAME.LT.ISS(I,1)) GO TO 3055
I=I+1
IF (I.GT.105) GO TO 3096
GO TO 3050
3055 IF (I.EQ.1) GO TO 3060
I=I-1

```

```

3050 IPIA=TSS(I,2)
DO 3060 K=1,12
  BENE(1,7,K)=(IPIA*82)/1000
  IF (BENE(1,7,K).GT.BENE(1,2,K)) BENE(1,7,K)=BENE(1,2,K)
  BENE(2,7,K)=(IPIA*32)/1000
  IF (BENE(2,7,K).GT.BENE(2,2,K)) BENE(2,7,K)=BENE(2,2,K)
  BENE(6,7,K)=(IPIA*75)/1000
  IF (BENE(6,7,K).GT.BENE(6,2,K)) BENE(6,7,K)=BENE(6,2,K)
3060 CONTINUE
GO TO 3105
3070 WRITE(6,3075)
3075 FORMAT(5X,"PROBLEM 1-----HAVE GONE THROUGH PHST ARRAY AND",
1 " " NOT FOUND A YEAR DATE FOR INITIAL YEAR. SEE STMT",
1 " " 2040 OF SOFST")
GO TO 3100
3080 WRITE(6,3085)
3085 FORMAT(5X,"PROBLEM 2-----HAVE GONE THROUGH PAY TABLES WITHOUT",
1 " " FINDING A SUITABLE DATE FOR INIYR. SEE STMT",
1 " " 2050 OF SOFST.")
GO TO 3100
3090 WRITE(6,3095)
3095 FORMAT(5X,"PROBLEM 3-----37 ARRAY EXHAUSTED AND DATE",
1 " " NOT FOUND THAT CORRESPONDS TO INIYR. SEE STMT",
1 " " 2050 OF SOFST")
GO TO 3100
3096 WRITE(6,3097)
3097 FORMAT(5X,"PROBLEM 4-----HAVE GONE THROUGH 36 MATRIX",
1 " " WITH NO VALUE TO USE. SEE STMT 3050 OF SOFST")
3100 ABST=1
3105 RETURN
END

```

```

SUBROUTINE SIINC
IMPLICIT INTEGER (A-7)
COMMON CIVA15,CIVYRS,IAME,IINC,INDEX,INIYR,IQVER,IFIA,
1 JQVER,LASTYR,LINE,LINS,LQWYR,MILYRS,MULT,RETP,REIG,ABRT
COMMON BAMY(4),COST(1),EFFD(3),ITEMP(50),WDO8(3),
1 PEGG(3),FET7(3),TGIV(50),TP2(30),TSUMF(50),WDO8(3)
COMMON ANAL(4,12),ACT(20,13),DETH(4,3),KDO8(10,3),PHST(25,6),
1 TSS(10,3),TEN(12,2),TDETH(4,3),WMX(6,2)
COMMON WIDLF(12),RENE(8,7,12),PAY(23,21,25),ID1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MNAM,FNAM,HC,SSN,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAM5,KNAM6,KNAM7,KNAM8,KNAM9,KNAM10
REAL COST,IINC,LINS
IINC=LINS*(J.775/12)
RETURN
END

```



```

SUPROUTINE SSSBN
IMPLICIT INTEGER (A-Z)
COMMON CIVALS, CIVYRS, IAME, LINC, INDEX, INIYR, JOVER, IPIA,
1 JOVER, LASTYR, LTNE, LINS, LOWYR, MILYRS, MULT, RETP, RETG, ABRT
COMMON BMT(4), COST(4), EFFD(3), JTEMP(50), ITEMP1(50), MD08(3),
1 PER0(3), RET0(3), TCIV(50), TP2(30), ISUMP(50), WD08(3)
COMMON ANAL(4,12), ACT(28,13), DETH(4,3), KDOOR(10,3), PHST(25,6),
1 TSS(10,3), TEN(12,2), TDETH(4,3), WIX(25,2)
COMMON WIDLF(12), BENF(6,7,12), PAY(23,21,25), TP1(24), ITEMP1(50)
COMMON TERM, NOKIDS, MNAME, FNAME, MC, SSN, WNAME, KNAME1, KNAME2, KNAME3, KNAME4,
1 KNAME, KNAME5, KNAME7, KNAME9, KNAME10
REAL COST, LINC, LINS
K=1
3110 IND=19N(K,1)
JNF=19N(K,2)
INDEX1=DETH(IND,1)-1096
IF (INDEX1.GT.0) INDEX1=35
MILYRS=((RET0(1)+19*0)*12+RET0(2))-INIYR/12
IYRS=DETH(IND,1)-1990-RET0(1)
IF (IYRS.LT.CIVYRS) GO TO 3120
IX=INDEX1-MILYRS-CIVYRS
NOYRS=0
GO TO 3125
3120 IX=INDEX1-MILYRS-IYRS
3125 IF (IX.LT.0) NOYRS=IX*(-1)
DO 3130 I=1,LINF
TCIV(I)=ITEMP1(I)
3130 CONTINUE
IL=LINE+1
IJ=IL+1
DO 3132 L=IL,IJ
IF (INIYR.GT.(1957*12)) GO TO 3134
TCIV(L)=1921
3132 CONTINUE
GO TO 3135
3134 L=L-1

```

```

3135 KKK=1
3136 IF ((WMX(KKK,1)*12).GT.((RETD(1)+1300)*12+RETD(2))) GO TO 3137
      KKK=KKK+1
      IF (KKK.GT.55) GO TO 3226
      GO TO 3136
3137 KKK=KKK+1
      IF (KKK.LT.1) KKK=1
      I=L+1
      J=I+CIVYMS
      IF (J.GT.5J) GO TO 3138
      GO TO 3139
3138 J=5C
      GO TO 3228
3139 DO 3141 L=I,J
      CIVA=CIVAME+12
      IF (CIVA.LT.WMX(KKK,2)) GO TO 3147
      TCIV(L)=WMX(KKK,2)
      KKK=KKK+1
      GO TO 3141
3140 TCIV(L)=CIVA
      KKK=KKK+1
3141 CONTINUE
      GO 3150 L=1,L
      ITEMPI(I)=TCIV(I)
3150 CONTINUE
      JFLAG=5
3151 I1=1
      I2=2
3152 IF (ITEMPI(I1).LE.ITEMPI(I2)) GO TO 3165
      I1=ITEMPI(I1)
      I2=ITEMPI(I2)
      ITEMPI(I1)=I2
      ITEMPI(I2)=I1
      JFLAG=1
3165 I1=I1+1
      I2=I2+1

```

```

3170 IF (I2.LE.J) GO TO 3160
IF (JFLAG.EQ.0) GO TO 3170
JFLAG=J
GO TO 3155
3175 JOVER=J
IF (NOYRS.EQ.0) GO TO 3181
DO 3185 I=1,NOYRS
JOVER=JOVER+ITFMP(I)
3185 CONTINUE
3181 ITCT=0
DO 3195 I=1,J
ITCT=ITCT+TCIV(I)
3195 CONTINUE
IF (IX.LT.0) ITOT=ITOT-JOVER
JAME=ITOT/(INDEX1*12)
I=1
3205 IF (JAME.LT.TSS(I,1)) GO TO 3215
I=I+1
IF (1.6T.105) GO TO 3220
GO TO 3210
3205 IF (1.50.1) GO TO 3210
I=I-1
3207 J=100
3210 JPIA=TSS(I,2)
JFAMAX=TSS(I,3)
BENE(1,3,K)=(JPIA*825)/1000
BENE(2,3,K)=(JPIA*825)+(JPIA*750)/1000
BENE(3,3,K)=JFAMAX
BENE(4,3,K)=0
BENE(5,3,K)=(JPIA*750)/1000
BENE(6,3,K)=(JPIA*1500)/1000
BENE(7,3,K)=(JPIA*1500)/1000
BENE(8,3,K)=JFAMAX
DO 3215 I=1,8
BENE(I,1,K)=BENE(I,2,K)+BENE(I,3,K)-BENE(I,7,K)
3215 CONTINUE

```

```

K=K+1
IF (K.GT.12) GO TO 3236
GO TO 3115
3220 IF (JAME.GT.TSS(135,1)) GO TO 3224
GO TO 3222
3221 WRITE (6,3231) JAME,TSS(135,1)
3231 FORMAT (5X,"WARNING-----AVERAGE MONTHLY EARNINGS ARE",/,
1 " " GREATER THAN THE LAST ENTRY FOR ABE IN THE",/,
1 " " 30 ARRAY, .5, ",15," VS ",15," ? YOU SHOULD",/
1 " " CHECK TO MAKE SURE THIS IS THE VALUE IN SSSBN",/,
1 " " AT STMT 3200--WE WILL CONTINUE TO PROCESS.")
GO TO 3207
3222 WRITE (6,3225)
3225 FORMAT(5X,"PROBLEM-----36 ARRAY EXHAUSTED AND NO VALUE",
1 " " FOUND. SEE STMT 3200 OF SSSBN")
ABT=1
GO TO 3230
3226 WRITE (6,3227)
3227 FORMAT(5X,"PROBLEM-----37 ARRAY EXHAUSTED AND",
1 " " NO VALUE FOUND. SEE STMT 3135 OF SSSBN.")
ABT=1
GO TO 3230
3228 WRITE (6,3229)
3229 FORMAT(5X,"WARNING-----WORKING YEARS (MIL/CIV) TOTAL ",
1 " " MORE THAN 50--PROGRAM LIMITS TO 50 AND PROCEEDS?")
GO TO 3139
3230 RETURN
END

```



```

M7=0
M6=0
M5=0
M4=0
M3=0
M2=0
M1=0
COUNT=0
IF (RENE(3,4,K).NE.0) M8=8
IF (RENE(7,4,K).NE.0) M7=7
IF (RENE(6,4,K).NE.0) M6=6
IF (RENE(5,4,K).NE.0) M5=5
IF (RENE(4,4,K).NE.0) M4=4
IF (RENE(3,4,K).NE.0) M3=3
IF (RENE(2,4,K).NE.0) M2=2
IF (RENE(1,4,K).NE.0) M1=1
IF (M8.EQ.0) GO TO 3430
M1=M8
COUNT=COUNT+1
FLIP1=1
3432 IF (M7.EQ.0) GO TO 3435
IF (FLIP1.EQ.0) GO TO 3432
M2=M7
COUNT=COUNT+1
FLIP2=1
GO TO 3434
3432 M1=M7
COUNT=COUNT+1
FLIP1=1
3434 IF (COUNT.EQ.2) GO TO 3470
3430 IF (M3.EQ.0) GO TO 3440
IF (FLIP1.EQ.0) GO TO 3438
M2=M3
COUNT=COUNT+1
FLIP2=1

```

```

3438 GO TO 3440
      N1=M6
      COUNT=COUNT+1
      FLN1=1
3439 IF (COUNT.EQ.2) GO TO 3475
3441 IF (M5.EQ.0) GO TO 3445
      IF (FLN1.EQ.0) GO TO 3443
      N2=M5
      COUNT=COUNT+1
      FLN2=1
      GO TO 3445
3443 N1=M5
      COUNT=COUNT+1
      FLN1=1
3444 IF (COUNT.EQ.2) GO TO 3480
3445 IF (M4.EQ.0) GO TO 3450
      IF (FLN1.EQ.0) GO TO 3448
      N2=M4
      COUNT=COUNT+1
      FLN2=1
      GO TO 3450
3448 N1=M4
      COUNT=COUNT+1
      FLN1=1
3449 IF (COUNT.EQ.2) GO TO 3485
3451 IF (M3.EQ.0) GO TO 3455
      IF (FLN1.EQ.0) GO TO 3453
      N2=M3
      COUNT=COUNT+1
      FLN2=1
      GO TO 3455
3453 N1=M3
      COUNT=COUNT+1
      FLN1=1
3454 IF (COUNT.EQ.2) GO TO 3490
3456 IF (M2.EQ.0) GO TO 3460

```

```

IF (FLN1.EQ.0) GO TO 3456
N2=M2
COUNT=COUNT+1
FLN2=1
GO TO 3458
3458 N1=M2
COUNT=COUNT+1
FLN1=1
3460 IF (COUNT.EQ.2) GO TO 3495
3461 IF (M1.EQ.0) GO TO 3465
IF (FLN1.EQ.0) GO TO 3463
N2=M1
COUNT=COUNT+1
FLN2=1
GO TO 3462
3463 N1=M1
COUNT=COUNT+1
FLN1=1
3465 IF (COUNT.EQ.2) GO TO 3500
IF (FLN1.EQ.1) GO TO 3513
GO TO 3520
3470 ICCDE=0
GO TO 3510
3475 ICCDE=1
GO TO 3510
3480 ICCDE=2
GO TO 3510
3485 ICCDE=3
GO TO 3510
3490 ICCDE=2
GO TO 3510
3495 ICCDE=1
GO TO 3510
3500 ICCDE=1
GO TO 3510
3510 M05=((RENE(M2,L,K)*12)+RENE(N2,F,K))-

```



```

1      ((BENE(I,1,1,K)+12)+BENE(N1,5,K))
      MOS1=MOS1+MOS
      COUNT=COUNT-1
      N1=N2
      FLA1=1
      N2=L
      FLN2=0
      IF (ICODE.EQ.6) GO TO 3436
      IF (ICODE.EQ.5) GO TO 3441
      IF (ICODE.EQ.4) GO TO 3446
      IF (ICODE.EQ.3) GO TO 3451
      IF (ICODE.EQ.2) GO TO 3456
      IF (ICODE.EQ.1) GO TO 3461
      IF (ICODE.EQ.0) GO TO 3513
      GO TO 3537
3513  MOS=((DETH(1,1)-1950)*12+DETH(1,2))-((BENE(1,4,K)+12+BENE(1,5,K))
      MOS1=MOS1+MOS
      SUM=SUM+BENE(1,1,K)*MOS
      ANAL(2,K)=SUM
      ANAL(3,K)=COST(PND)
      ANAL(4,K)=ANAL(2,K)/MOS1
      GO TO 3465
3520  WRITE(2,3525)
3525  FORMAT(5X,"POTENTIAL PROBLEM----WENT ALL THE WAY THROUGH",
1      " " BENE ARRAY AND COUNT STILL ZERO. SEE STMT",
1      " " 3437-3465 OF SANAL.")
      ABST=1
      GO TO 3550
3530  WRITE(2,3535)
3535  FORMAT(5X,"POTENTIAL PROBLEM----ICODE NOT EQUAL TO ZERO",
1      " " AND YET FELL THROUGH ALL THE IF STMTS.SEE STMT",
1      " " 3510 OF SANAL.")
      ABST=1
      GO TO 3550
3540  ANAL(2,K)=0
3545  K=K+1

```

IF (K.GT.12) GO TO 3550
GO TO 3435
3550 RETURN
END

```

SUBROUTINE SPRINT
IMPLICIT INTEGER (A-7)
COMMON CIVAME,CIVYPS,IAME,LINE,INDEX,INIYR,INVER,IPIA,
1 JOVER,LASTYR,LINE,LINS,LWYR,MALYFS,MULT,RETP,KETG,ABRT
COMMON BMT(7),COST(3),EFTD(3),ITEMP(50),ITEMPI(50),WDOB(3),
1 PERD(3),RETD(3),TCIV(50),TP2(33),ISUMP(50),WDOB(3)
COMMON ANAL(4,12),ACT(28,13),DETH(4,3),KDOB(13,3),PHST(25,5),
1 TSS(11,3),TEN(12,2),TDETH(4,3),WMX(6,2)
COMMON WIDLF(12),BENT(8,7,12),PAY(23,21,25),TP1(24),ITEMPI(50)
COMMON TERM,NOKIDS,MNAM,FNAM,M1,S3N,WNAM,KNAM1,KNAM2,KNAM3,KNAM4,
1 KNAME,KNAMS,KNAM7,KNAMS,KNAM9,KNAM10
REAL COST,LINS
WRITE(6,5001) FNAM,M1,MNAM,(RETD(I),I=1,3),KETG,RETP,
1 CIVYPS,CIVAME,(WDOB(I),I=1,3),(WDOB(I),I=1,3)
5001 FORMAT (10X,"SPR ANALYSIS FOR ",A10,A2,A10,///,5X,
1 "MEMBERS RETIREMENT FROM ACTIVE MILITARY SERVICE OCCUR ",
1 "ON ",3I2," IN THE ",//,5X," GRADE OF ",A4,"",//,2X,
1 "MILITARY RETIRED PAY ENTITLEMENT IS $",I4," PER MONTH"
1 //,2X,"FOR PURPOSES OF ANALYSIS THE FOLLOWING ASSUMPTIONS",
1 " OR GIVENS HAVE BEEN USED",//,2X,"NUMBER OF","YEARS OF",
1 " CIVILIAN EMPLOYMENT - ",I2,/,2X,"AVERAGE MONTHLY ",
1 " EARNINGS COVERED BY SOCIAL SECURITY - $",I5,/,2X,
1 "MEMBERS DOB - ",3I2,/,2X,"SPOUSE DOB - ",3I2,/)
K=J
5002 IND=1BN(K,1)
END=1BN(K,2)
WRITE (6,5010) WMAM,PAMT(3ND),(DETH(IND,J),J=1,3)
5010 FORMAT (///,5X," THE FOLLOWING SECTION IS A SUMMARY OF THE",
1 " SURVIVORS MONTHLY INCOME",/, " INCLUDING THE CHANGES",
1 " TO THAT INCOME AS A RESULT OF THE CHILDREN ",/, " ",
1 " REACHING AGES 18 AND 23 AND THE SPOUSE, ",A10,
1 " REACHING AGE 62.",//,2X,"THIS TABLE BASE AMOUNT ",
1 I4," AND DATE OF DEMISE OF MEMBER OF ",I4,2I2,/)
WRITE (6,5015)
5015 FORMAT (10X,"TOTAL FAMILY MONTHLY BENEFIT SUMMARY",
1 ///,5X,"EFFECTIVE SSA S3P BEFORE SSA TOTAL",

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```

1      /,7X,"DATE      PAYMENT      OFFSET      OFFSET      BENEFIT",/)
11=6
5020 IF (BENE(II,K),50.0) GO TO 5025
      WACE=BENE(II,K)+1910
      WRITE(6,5050) WACE,(BENE(II,J,K),J=5,6),BENE(II,3,K),
1      BENE(II,2,K),BENE(II,7,K),BENE(II,1,K)
5025 II=II+1
      IF (II.LT.1) GO TO 5035
      GO TO 5020
5030 FORMAT(4X,I4,2I2,1X,I4,6X,I4,5X,I4,7X,I4)
5035 WRITE(6,5032) LINS,IINC
5032 FORMAT (//,5X,"MONTHLY INTEREST INCOME FROM 3",F7.0," IS $",F7.2)
      K=K+1
      IF (K.GT.12) GO TO 5060
      GO TO 5005
5038 WRITE(6,5070)
5070 FORMAT (////,5X," THE FOLLOWING SECTION IS A COST BENEFIT "
1      "ANALYSIS OF THE SBP CONSIDERING",/, " COST TO THE MEMBER,"
1      "AMOUNT OF SBP BENEFITS," /,"SOCIAL SECURITY PAYMENTS,"
1      " SSA OFFSETS TO SBP OVER TIME."////)
      WRITE(6,5075)
5075 FORMAT (5X,"COST-BENEFIT TABLE VS DEGREE OF PARTICIPATION",///,
1      4X,"DEGREE OF      DATE OF TOTAL      ACTUAL      TOTAL      AVERAGE",/
1      2X,"PARTICIPATION DEATH COST      NON COST      BENEFIT      BENE",
1      "FIT PER NON",///)
      GO 5090 K=1,12
      IND=TRN(K,1)
      BND=TRN(K,2)
      WRITE(6,5095) SMT(BND),(DETH(IND,KL),KL=1,3),ANAL(1,K),
1      ANAL(3,K),ANAL(2,K),ANAL(4,K)
5090 CONTINUE
5095 FORMAT (5X,I4,5X,I4,2I2,2X,I6,2X,I4,5X,I6,5X,I4)
      WRITE(6,6000) FNAME,MI,MNAM
6000 FORMAT (3X,"THE SBPPOINT FILE IS NOW READY TO BE LISTED ",
1      "FOR ",A1,A2,A10)
      RETURN

```

APPENDIX G
Computer Listing - PAYSCALE

100 23 PAY GRADES

110 011
120 09
130 08
140 07
150 06
160 05
170 04
180 03
190 02
200 01
210 W0
220 W3
230 W2
240 W1
250 E5
260 E0
270 E7
280 E4
290 E4
300 E4
310 E3
320 E2
330 E1

100 23 YEARS OF SERVICE RELATED TO F0GIES

110 01
120 02
130 02
140 04
150 04
160 03
170 03
180 06
190 03
200 07
210 07

161	39	71	0910	710212	777310	730612
162	39	71	0910	710212	777310	730612
163	40	71	0910	710318	777310	730918
164	41	71	0912	710300	770812	740300
165	42	71	0910	710500	777310	740900
166	43	71	0924	710700	771020	740106
167	44	71	0900	710318	737100	740318
168	45	71	0900	710919	780100	740318
169	46	71	0910	720300	730310	740600
170	47	71	0910	720300	737310	740600
171	48	71	0924	720212	757420	740812
172	49	71	0910	720324	737300	741024
173	50	71	0910	720700	737310	750106
174	51	71	0924	720312	731020	750212
175	52	71	0900	721120	730100	750424
176	53	71	0912	730100	730212	750700
177	54	71	0924	730318	737420	750918
178	55	71	0910	730700	737300	760106
179	56	71	0910	730318	730910	760118
180	57	71	0900	740100	807000	760706
181	58	71	0912	740424	607210	761124
182	59	71	0924	740912	307420	770212
183	60	71	0912	750100	807310	770600
184	61	71	0912	750318	807100	770918
185	62	71	0912	750312	310212	780212
TABLE OF AMF P10 AND FAMILY MAX						
1000	105	71	0910	710212	777310	730612
1001	106	71	0910	710212	777310	730612
1002	107	71	0910	710318	777310	730918
1003	108	71	0910	710300	770812	740300
1004	109	71	0910	710500	777310	740900
1005	110	71	0924	710700	771020	740106
1006	111	71	0900	710318	737100	740318
1007	112	71	0900	710919	780100	740318
1008	113	71	0910	720300	730310	740600
1009	114	71	0910	720300	737310	740600
1010	115	71	0924	720212	757420	740812
1011	116	71	0910	720324	737300	741024
1012	117	71	0910	720700	737310	750106
1013	118	71	0924	720312	731020	750212
1014	119	71	0900	721120	730100	750424
1015	120	71	0912	730100	730212	750700
1016	121	71	0924	730318	737420	750918
1017	122	71	0910	730700	737300	760106
1018	123	71	0910	730318	730910	760118
1019	124	71	0900	740100	807000	760706
1020	125	71	0912	740424	607210	761124
1021	126	71	0924	740912	307420	770212
1022	127	71	0912	750100	807310	770600
1023	128	71	0912	750318	807100	770918
1024	129	71	0912	750312	310212	780212
1025	130	71	0910	710212	777310	730612
1026	131	71	0910	710212	777310	730612
1027	132	71	0910	710318	777310	730918
1028	133	71	0910	710300	770812	740300
1029	134	71	0910	710500	777310	740900
1030	135	71	0924	710700	771020	740106
1031	136	71	0900	710318	737100	740318
1032	137	71	0900	710919	780100	740318
1033	138	71	0910	720300	730310	740600
1034	139	71	0910	720300	737310	740600
1035	140	71	0924	720212	757420	740812
1036	141	71	0910	720324	737300	741024
1037	142	71	0910	720700	737310	750106
1038	143	71	0924	720312	731020	750212
1039	144	71	0900	721120	730100	750424
1040	145	71	0912	730100	730212	750700
1041	146	71	0924	730318	737420	750918
1042	147	71	0910	730700	737300	760106
1043	148	71	0910	730318	730910	760118
1044	149	71	0900	740100	807000	760706
1045	150	71	0912	740424	607210	761124
1046	151	71	0924	740912	307420	770212
1047	152	71	0912	750100	807310	770600
1048	153	71	0912	750318	807100	770918
1049	154	71	0912	750312	310212	780212
1050	155	71	0910	710212	777310	730612
1051	156	71	0910	710212	777310	730612
1052	157	71	0910	710318	777310	730918
1053	158	71	0910	710300	770812	740300
1054	159	71	0910	710500	777310	740900
1055	160	71	0924	710700	771020	740106
1056	161	71	0900	710318	737100	740318
1057	162	71	0900	710919	780100	740318
1058	163	71	0910	720300	730310	740600
1059	164	71	0910	720300	737310	740600
1060	165	71	0924	720212	757420	740812
1061	166	71	0910	720324	737300	741024
1062	167	71	0910	720700	737310	750106
1063	168	71	0924	720312	731020	750212
1064	169	71	0900	721120	730100	750424
1065	170	71	0912	730100	730212	750700
1066	171	71	0924	730318	737420	750918
1067	172	71	0910	730700	737300	760106
1068	173	71	0910	730318	730910	760118
1069	174	71	0900	740100	807000	760706
1070	175	71	0912	740424	607210	761124
1071	176	71	0924	740912	307420	770212
1072	177	71	0912	750100	807310	770600
1073	178	71	0912	750318	807100	770918
1074	179	71	0912	750312	310212	780212
1075	180	71	0910	710212	777310	730612
1076	181	71	0910	710212	777310	730612
1077	182	71	0910	710318	777310	730918
1078	183	71	0910	710300	770812	740300
1079	184	71	0910	710500	777310	740900
1080	185	71	0924	710700	771020	740106
1081	186	71	0900	710318	737100	740318
1082	187	71	0900	710919	780100	740318
1083	188	71	0910	720300	730310	740600
1084	189	71	0910	720300	737310	740600
1085	190	71	0924	720212	757420	740812

1116	0150	1139	0238
1120	0167	1204	0305
1133	0179	0209	0314
1146	0183	0212	0319
1150	0192	0217	0326
1160	0200	0222	0333
1170	0208	0228	0342
1183	0217	0233	0349
1190	0220	0236	0353
1200	0232	0241	0352
1213	0242	0246	0371
1220	0250	0252	0380
1230	0258	0264	0383
1240	0267	0269	0406
1250	0277	0265	0421
1260	0283	0270	0435
1270	0291	0273	0443
1280	0300	0278	0456
1290	0308	0283	0470
1300	0317	0288	0489
1310	0320	0294	0493
1320	0332	0290	0505
1330	0342	0301	0520
1340	0350	0307	0534
1350	0358	0312	0549
1360	0367	0317	0553
1370	0370	0320	0570
1380	0383	0326	0580
1390	0391	0331	0597
1400	0400	0336	0613
1410	0408	0341	0628
1420	0417	0344	0634
1430	0421	0349	0646
1440	0430	0353	0653
1450	0442	0358	0670
1460	0450	0361	0673

1470	0458	0306	0037
1480	0467	0371	0037
1490	0475	0376	0035
1500	0483	0301	0702
1510	0492	0303	0705
1520	0500	0308	0712
1530	0509	0303	0719
1540	0517	0308	0727
1550	0525	0403	0733
1560	0533	0406	0737
1570	0542	0410	0740
1580	0550	0415	0752
1590	0558	0420	0757
1600	0567	0425	0752
1610	0575	0431	0770
1620	0583	0435	0775
1630	0592	0440	0781
1640	0600	0446	0739
1650	0609	0450	0736
1660	0616	0455	0810
1670	0625	0451	0808
1680	0633	0456	0815
1690	0642	0470	0822
1700	0651	0477	0834
1710	0658	0475	0838
1720	0667	0483	0845
1730	0675	0494	0847
1740	0683	0468	0850
1750	0692	0491	0850
1760	0700	0493	0852
1770	0709	0495	0859
1780	0717	0500	0875
1790	0725	0502	0878
1800	0733	0503	0884
1810	0742	0509	0890
1820	0750	0510	0833

1870	0513	0513	0816
1880	0516	0516	0816
1890	0517	0517	0816
1900	0520	0520	0816
1910	0523	0523	0816
1920	0525	0525	0818
1930	0528	0528	0823
1940	0530	0530	0828
1950	0535	0535	0836
1960	0539	0539	0843
1970	0545	0545	0853
1980	0549	0549	0858
1990	0553	0553	0863
2000	0558	0558	0866
2010	0561	0561	0873
2020	0567	0567	0878
2030	0573	0573	0881
2040	0578	0578	0886
2050	0582	0582	0891
2060	0587	0587	0896
2070	0591	0591	0901
2080	0595	0595	0906
2090	0599	0599	0911
2100	0603	0603	0916
2110	0607	0607	0921
2120	0611	0611	0926
2130	0615	0615	0931
2140	0619	0619	0936
2150	0623	0623	0941
2160	0627	0627	0946
2170	0631	0631	0951
2180	0635	0635	0956
2190	0639	0639	0961
2200	0643	0643	0966
2210	0647	0647	0971
2220	0651	0651	0976
2230	0655	0655	0981
2240	0659	0659	0986
2250	0663	0663	0991
2260	0667	0667	0996
2270	0671	0671	1001
2280	0675	0675	1006
2290	0679	0679	1011
2300	0683	0683	1016
2310	0687	0687	1021
2320	0691	0691	1026
2330	0695	0695	1031
2340	0699	0699	1036
2350	0703	0703	1041
2360	0707	0707	1046
2370	0711	0711	1051
2380	0715	0715	1056
2390	0719	0719	1061
2400	0723	0723	1066
2410	0727	0727	1071
2420	0731	0731	1076
2430	0735	0735	1081
2440	0739	0739	1086
2450	0743	0743	1091
2460	0747	0747	1096
2470	0751	0751	1101
2480	0755	0755	1106
2490	0759	0759	1111
2500	0763	0763	1116
2510	0767	0767	1121
2520	0771	0771	1126
2530	0775	0775	1131
2540	0779	0779	1136
2550	0783	0783	1141
2560	0787	0787	1146
2570	0791	0791	1151
2580	0795	0795	1156
2590	0799	0799	1161
2600	0803	0803	1166
2610	0807	0807	1171
2620	0811	0811	1176
2630	0815	0815	1181
2640	0819	0819	1186
2650	0823	0823	1191
2660	0827	0827	1196
2670	0831	0831	1201
2680	0835	0835	1206
2690	0839	0839	1211
2700	0843	0843	1216
2710	0847	0847	1221
2720	0851	0851	1226
2730	0855	0855	1231
2740	0859	0859	1236
2750	0863	0863	1241
2760	0867	0867	1246
2770	0871	0871	1251
2780	0875	0875	1256
2790	0879	0879	1261
2800	0883	0883	1266
2810	0887	0887	1271
2820	0891	0891	1276
2830	0895	0895	1281
2840	0899	0899	1286
2850	0903	0903	1291
2860	0907	0907	1296
2870	0911	0911	1301
2880	0915	0915	1306
2890	0919	0919	1311
2900	0923	0923	1316
2910	0927	0927	1321
2920	0931	0931	1326
2930	0935	0935	1331
2940	0939	0939	1336
2950	0943	0943	1341
2960	0947	0947	1346
2970	0951	0951	1351
2980	0955	0955	1356
2990	0959	0959	1361
3000	0963	0963	1366
3010	0967	0967	1371
3020	0971	0971	1376
3030	0975	0975	1381
3040	0979	0979	1386
3050	0983	0983	1391
3060	0987	0987	1396
3070	0991	0991	1401
3080	0995	0995	1406
3090	0999	0999	1411
3100	1003	1003	1416
3110	1007	1007	1421
3120	1011	1011	1426
3130	1015	1015	1431
3140	1019	1019	1436
3150	1023	1023	1441
3160	1027	1027	1446
3170	1031	1031	1451
3180	1035	1035	1456
3190	1039	1039	1461
3200	1043	1043	1466
3210	1047	1047	1471
3220	1051	1051	1476
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3270	1071	1071	1501
3280	1075	1075	1506
3290	1079	1079	1511
3300	1083	1083	1516
3310	1087	1087	1521
3320	1091	1091	1526
3330	1095	1095	1531
3340	1099	1099	1536
3350	1103	1103	1541
3360	1107	1107	1546
3370	1111	1111	1551
3380	1115	1115	1556
3390	1119	1119	1561
3400	1123	1123	1566
3410	1127	1127	1571
3420	1131	1131	1576
3430	1135	1135	1581
3440	1139	1139	1586
3450	1143	1143	1591
3460	1147	1147	1596
3470	1151	1151	1601
3480	1155	1155	1606
3490	1159	1159	1611
3500	1163	1163	1616
3510	1167	1167	1621
3520	1171	1171	1626
3530	1175	1175	1631
3540	1179	1179	1636
3550	1183	1183	1641
3560	1187	1187	1646
3570	1191	1191	1651
3580	1195	1195	1656
3590	1199	1199	1661
3600	1203	1203	1666
3610	1207	1207	1671
3620	1211	1211	1676
3630	1215	1215	1681
3640	1219	1219	1686
3650	1223	1223	1691
3660	1227	1227	1696
3670	1231	1231	1701
3680	1235	1235	1706
3690	1239	1239	1711
3700	1243	1243	1716
3710	1247	1247	1721
3720	1251	1251	1726
3730	1255	1255	1731
3740	1259	1259	1736
3750	1263	1263	1741
3760	1267	1267	1746
3770	1271	1271	1751
3780	1275	1275	1756
3790	1279	1279	1761
3800	1283	1283	1766
3810	1287	1287	1771
3820	1291	1291	1776
3830	1295	1295	1781
3840	1299	1299	1786
3850	1303	1303	1791
3860	1307	1307	1796
3870	1311	1311	1801
3880	1315	1315	1806
3890	1319	1319	1811
3900	1323	1323	1816
3910	1327	1327	1821
3920	1331	1331	1826
3930	1335	1335	1831
3940	1339	1339	1836
3950	1343	1343	1841
3960	1347	1347	1846
3970	1351	1351	1851
3980	1355	1355	1856
3990	1359	1359	1861
4000	1363	1363	1866
4010	1367	1367	1871
4020	1371	1371	1876
4030	1375	1375	1881
4040	1379	1379	1886
4050	1383	1383	1891
4060	1387	1387	1896
4070	1391	1391	1901
4080	1395	1395	1906
4090	1399	1399	1911
4100	1403	1403	1916
4110	1407	1407	1921
4120	1411	1411	1926
4130	1415	1415	1931
4140	1419	1419	1936
4150	1423	1423	1941
4160	1427	1427	1946
4170	1431	1431	1951
4180	1435	1435	1956
4190	1439	1439	1961
4200	1443	1443	1966
4210	1447	1447	1971
4220	1451	1451	1976
4230	1455	1455	1981
4240	1459	1459	1986
4250	1463	1463	1991
4260	1467	1467	1996
4270	1471	1471	2001
4280	1475	1475	2006
4290	1479	1479	2011
4300	1483	1483	2016
4310	1487	1487	2021
4320	1491	1491	2026
4330	1495	1495	2031
4340	1499	1499	2036
4350	1503	1503	2041
4360	1507	1507	2046
4370	1511	1511	2051
4380	1515	1515	2056
4390	1519	1519	2061
4400	1523	1523	2066
4410	1527	1527	2071
4420	1531	1531	2076
4430	1535	1535	2081
4440	1539	1539	2086
4450	1543	1543	2091
4460	1547	1547	2096
4470	1551	1551	2101
4480	1555	1555	2106
4490	1559	1559	2111
4500	1563	1563	2116
4510	1567	1567	2121
4520	1571	1571	2126
4530	1575	1575	2131
4540	1579	1579	2136
4550	1583	1583	2141
4560	1587	1587	2146
4570	1591	1591	2151
4580	1595	1595	2156
4590	1599	1599	2161
4600	1603	1603	2166
4610	1607	1607	2171
4620	1611	1611	2176
4630	1615	1615	2181
4640	1619	1619	2186
4650	1623	1623	2191
4660	1627	1627	2196
4670	1631	1631	2201
4680	1635	1635	2206
4690	1639	1639	2211
4700	1643	1643	2216
4710	1647	1647	2221
4720	1651	1651	2226
4730	1655	1655	2231
4740	1659	1659	2236
4750	1663	1663	2241
4760	1667	1667	2246
4770	1671	1671	2251
4780	1675	1675	2256
4790	1679	1679	2261
4800	1683	1683	2266
4810	1687	1687	2271
4820	1691	1691	2276
4830	1695	1695	2281
4840	1699	1699	2286
4850	1703	1703	2291
4860	1707	1707	2296
4870	1711	1711	2301
488			

230	1968	17800
240	1969	17800
250	1970	17800
260	1971	17800
270	1972	19100
280	1973	16300
290	1974	13200
300	1975	16100
310	1976	15300
320	1977	16500
330	1978	17700
340	1979	22900
350	1980	25900
360	1981	25700
370	1982	25700
380	1983	29700
390	1984	29700
400	1985	29700
410	1986	29700
420	1987	29700
430	1988	29700
440	1989	29700
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460	1991	29700
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560	2001	29700
570	2002	29700
580	2003	29700

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410	2000	29700
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425	2000	29700
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465	2000	29700
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805	2000	29700
810	2000	29700
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820	2000	29700
825	2000	29700
830	2000	29700
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850	2000	29700
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860	2000	29700
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870	2000	29700
875	2000	29700
880	2000	29700
885	2000	29700
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915	2000	29700
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960	2000	29700
965	2000	29700
970	2000	29700
975	2000	29700
980	2000	29700
985	2000	29700
990	2000	29700
995	2000	29700
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PAY TABLE EFFECTIVE APR 55 FOR 36 MONTHS

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183	0093	0220	0670	0570	0670	0670	0670	0670
210	0470	0503	0540	0510	0510	0510	0510	0510
220	0530	0580	0720	0715	0715	0715	0715	0715
230	0410	0424	0455	0455	0455	0455	0455	0455
240	0570	0610	0630	0630	0630	0630	0630	0630
250	0520	0545	0572	0572	0572	0572	0572	0572
260	0525	0525	0525	0525	0525	0525	0525	0525
270	0200	0291	0300	0300	0300	0300	0300	0300
280	0300	0300	0300	0300	0300	0300	0300	0300
290	0220	0251	0314	0314	0314	0314	0314	0314
300	0310	0314	0314	0314	0314	0314	0314	0314
310	0333	0370	0370	0370	0370	0370	0370	0370
320	0400	0400	0410	0410	0410	0410	0410	0410
330	0313	0343	0343	0343	0343	0343	0343	0343
340	0427	0441	0458	0458	0458	0458	0458	0458
350	0205	0298	0298	0298	0298	0298	0298	0298
360	0301	0393	0400	0400	0400	0400	0400	0400
370	0210	0250	0250	0250	0250	0250	0250	0250
380	0304	0304	0375	0375	0375	0375	0375	0375
390	0000	0000	0000	0000	0000	0000	0000	0000
400	0400	0410	0420	0420	0420	0420	0420	0420
410	0100	0100	0100	0100	0100	0100	0100	0100
420	0300	0300	0300	0300	0300	0300	0300	0300
430	0200	0200	0200	0200	0200	0200	0200	0200
440	0310	0325	0340	0340	0340	0340	0340	0340
450	0170	0200	0200	0200	0200	0200	0200	0200
460	0270	0280	0290	0290	0290	0290	0290	0290
470	0105	0105	0105	0105	0105	0105	0105	0105
480	0200	0200	0200	0200	0200	0200	0200	0200
490	0122	0150	0160	0160	0160	0160	0160	0160
500	0190	0190	0190	0190	0190	0190	0190	0190
510	0099	0120	0120	0120	0120	0120	0120	0120
520	0101	0141	0141	0141	0141	0141	0141	0141
530	0000	0100	0100	0100	0100	0100	0100	0100

[illegible]

FOR 12 MONTHS

130	1200	0275	1285	0205	0315	0325	0335
131	1300	0360	0370	0375	0400	0450	0450
132	1310	0240	0250	0250	0270	0280	0290
133	1320	0315	0325	0330	0330	0330	0330
134	1330	0210	0220	0230	0235	0255	0275
135	1340	0290	0280	0280	0280	0280	0280
136	1350	0180	0190	0200	0210	0215	0215
137	1400	0215	0215	0215	0215	0215	0215
138	1410	0145	0155	0165	0165	0165	0165
139	1420	0105	0105	0105	0105	0105	0105
140	1430	0120	0120	0120	0120	0120	0120
141	1440	0120	0120	0120	0120	0120	0120
142	1450	0110	0110	0110	0110	0110	0110
143	1500	0110	0110	0110	0110	0110	0110
144	1510	0901	1200	1200	1200	1200	1200
145	1520	1340	1340	1340	1340	1340	1340
146	1530	1610	1610	1610	1610	1610	1610
147	1540	1130	1210	1210	1210	1210	1210
148	1550	1390	1390	1390	1390	1390	1390
149	1600	1070	1100	1100	1100	1100	1100
150	1610	1200	1200	1200	1200	1200	1200
151	1620	0920	0920	0920	0920	0920	0920
152	1630	1100	1200	1200	1200	1200	1200
153	1640	0707	0707	0707	0707	0707	0707
154	1650	0902	0902	0902	0902	0902	0902
155	1700	0600	0600	0600	0600	0600	0600
156	1710	0748	0748	0748	0748	0748	0748
157	1720	0534	0534	0534	0534	0534	0534
158	1730	0528	0528	0528	0528	0528	0528
159	1740	0707	0707	0707	0707	0707	0707
160	1750	0451	0451	0451	0451	0451	0451
161	1800	0650	0650	0650	0650	0650	0650
162	1810	1304	1304	1304	1304	1304	1304
163	1820	0407	0407	0407	0407	0407	0407
164	1830	1203	1203	1203	1203	1203	1203
165	1840	0304	0304	0304	0304	0304	0304
166	1850	0441	0441	0441	0441	0441	0441
167	1900	0641	0641	0641	0641	0641	0641

320	0210	0113	0210	0130	0071	0112	0722	
330	0320	0400	0400	0400	0410	0440	0472	1407
340	0402	0410	0403	0403	0404	0405	0405	
350	0207	0350	0350	0210	0300	0400	0420	1436
360	0401	0400	0402	0400	0400	0410	0410	
370	0238	0310	0313	0338	0304	0359	0334	0400
380	0400	0401	0400	0401	0401	0401	0401	
390	0400	0400	0400	0400	0400	0400	0400	0406
400	0407	0400	0400	0400	0400	0400	0400	
410	0400	0400	0400	0400	0400	0400	0400	0395
420	0400	0400	0400	0400	0400	0400	0400	
430	0206	0202	0202	0302	0313	0323	0323	0340
440	0309	0309	0309	0309	0410	0451	0451	
450	0106	0200	0200	0200	0200	0200	0200	0313
460	0323	0333	0333	0333	0333	0330	0330	
470	0105	0200	0200	0200	0200	0200	0200	0282
480	0207	0207	0207	0207	0207	0207	0207	
490	0122	0100	0100	0210	0210	0221	0221	1221
500	0221	0221	0221	0221	0221	0221	0221	
510	0007	0100	0100	0100	0100	0100	0100	1169
520	0100	0100	0100	0100	0100	0100	0100	
530	0000	0123	0123	0123	0123	0123	0123	1123
540	0123	0123	0123	0123	0123	0123	0123	
550	0003	0113	0113	0113	0113	0113	0113	1113
560	0113	0113	0113	0113	0113	0113	0113	
570	0000	0000	0000	0000	0000	0000	0000	1597
580	0000	0000	0000	0000	0000	0000	0000	
590	0000	0000	0000	0000	0000	0000	0000	1359
600	0000	0000	0000	0000	0000	0000	0000	
610	0000	0000	0000	0000	0000	0000	0000	1315
620	0000	0000	0000	0000	0000	0000	0000	
630	0000	0000	0000	0000	0000	0000	0000	1087
640	0000	0000	0000	0000	0000	0000	0000	
650	0000	0000	0000	0000	0000	0000	0000	0799
660	0000	0000	0000	0000	0000	0000	0000	
670	0000	0000	0000	0000	0000	0000	0000	1170

FOR 10 MONTHS

219	0545	1641	0585	1645	0675	0685	0716	1744
220	0753	0653	0982	1929	0962	0982	0952	
230	0460	0160	0558	1058	1058	0536	0579	0717
240	0750	0782	0884	0884	0884	0804	0804	
250	0426	0470	0511	0665	0582	0614	0647	1679
260	0595	0095	0595	0595	0675	0895	0635	
270	0343	0407	0489	1055	0516	0516	0516	0516
280	0516	0516	0516	0516	0516	0516	0516	
290	0295	0320	0407	0407	0407	0407	0407	0107
300	0407	0407	0407	0407	0407	0407	0407	
310	0436	0407	0407	0407	0500	0521	0543	0581
320	0500	0639	0647	0158	0600	0714	0744	
330	0396	0429	0429	0435	0400	0473	0530	0516
340	0532	0540	0555	0537	0608	0530	0630	
350	0347	0375	0375	1286	0607	0429	0446	0462
360	0478	0494	0511	0527	0718	0548	0548	
370	0269	0332	0332	1359	0375	0391	0397	0424
380	0400	0456	0473	0489	0689	0409	0499	
390	0000	0509	0509	0509	0500	0500	0495	0506
400	0516	1529	0501	0502	0581	0637	0637	
410	0800	0500	0500	0500	0500	0415	0427	0438
420	0400	0401	0472	0400	0512	0509	0559	
430	0201	0313	0324	0336	0347	0358	0370	0381
440	0358	0110	0421	0427	0405	0512	0512	
450	0225	1273	0204	0296	0318	0319	0330	0347
460	0355	1370	0375	0376	0376	0376	0376	
470	0194	0239	0211	0212	0209	0290	0290	0313
480	0315	0319	0319	0319	0319	0319	0319	
490	0166	0205	0215	0233	0205	0245	0245	1245
500	0245	0245	0245	0245	0245	0245	0245	
510	0118	1165	0175	0168	0188	0188	0188	0189
520	0180	1195	0163	1169	0168	0168	0168	
530	0058	0137	0137	0137	0177	0137	0137	0137
540	0137	0137	0137	0137	0137	0137	0137	
550	0054	0120	0120	0120	0120	0120	0120	0125
560	0125	0125	0125	0125	0125	0125	0125	

117 40 650701 15 PAY TABLE EFFECTIVE JULY 66 FOR 15 MONTHS

118	1424	1475	1475	1475	1475	1531	1531	1531	1648
119	1600	1700	1700	1700	1700	2002	2002	2002	2113
120	1202	1233	1233	1233	1233	1323	1323	1323	1413
121	1413	1431	1431	1431	1431	1608	1608	1608	1756
122	1143	1175	1205	1235	1265	1295	1295	1295	1357
123	1357	1413	1475	1531	1592	1592	1592	1592	1732
124	0950	1010	1010	1010	1010	1060	1060	1060	1121
125	1170	1290	1305	1305	1305	1384	1384	1384	1435
126	0704	0774	0824	0824	0824	0824	0824	0824	0824
127	0952	0987	1037	1037	1037	1121	1121	1121	1217
128	0563	0632	0707	0707	0707	0707	0707	0707	0766
129	0819	0880	0931	0931	0931	0932	0932	0932	0932
130	0477	0578	0617	0617	0617	0628	0628	0628	0740
131	0774	0807	0831	0831	0831	0830	0830	0830	0830
132	0442	0493	0527	0527	0527	0611	0611	0611	0657
133	0716	0716	0716	0716	0716	0716	0716	0716	0716
134	0334	0420	0505	0505	0505	0533	0533	0533	0533
135	0533	0533	0533	0533	0533	0533	0533	0533	0533
136	0304	0330	0421	0421	0421	0420	0420	0420	0420
137	0420	0420	0420	0420	0420	0420	0420	0420	0420
138	0449	0482	0482	0482	0482	0515	0515	0515	0550
139	0626	0650	0667	0667	0667	0712	0712	0712	0758
140	0409	0443	0443	0443	0443	0488	0488	0488	0516
141	0318	0337	0367	0367	0367	0420	0420	0420	0451
142	0493	0510	0527	0527	0527	0566	0566	0566	0566
143	0290	0342	0362	0362	0362	0367	0367	0367	0367
144	0424	0471	0483	0483	0483	0505	0505	0505	0505
145	0300	0300	0300	0300	0300	0300	0300	0300	0300
146	0534	0540	0553	0553	0553	0559	0559	0559	0559
147	0000	0000	0000	0000	0000	0000	0000	0000	0000
148	0484	0470	0487	0487	0487	0529	0529	0529	0529
149	0209	0323	0333	0333	0333	0378	0378	0378	0378
150	0411	0423	0434	0434	0434	0470	0470	0470	0470
151	0232	0282	0293	0293	0293	0317	0317	0317	0317

240	0873	0911	0937	0937	0937	0937	0937	0937	1791
250	0496	0557	0595	0600	0600	0610	0610	0610	0601
260	0510	0810	0810	0810	0810	0810	0810	0810	0601
270	0399	0474	0570	0570	0570	0570	0570	0570	0601
280	0511	0511	0511	0511	0511	0511	0511	0511	0601
290	0343	0380	0474	0474	0474	0474	0474	0474	0474
300	0474	0474	0474	0474	0474	0474	0474	0474	0474
310	0507	0544	0544	0544	0544	0544	0544	0544	0577
320	0709	0734	0753	0753	0753	0753	0753	0753	0556
330	0411	0411	0411	0411	0411	0411	0411	0411	0501
340	0520	0639	0643	0643	0643	0643	0643	0643	0734
350	0414	0437	0437	0437	0437	0437	0437	0437	0538
360	0517	0570	0595	0595	0595	0595	0595	0595	0639
370	0337	0386	0386	0386	0386	0386	0386	0386	0474
380	0513	0532	0532	0532	0532	0532	0532	0532	0570
390	0510	0510	0510	0510	0510	0510	0510	0510	0570
400	0513	0515	0539	0539	0539	0539	0539	0539	0570
410	0510	0510	0510	0510	0510	0510	0510	0510	0570
420	0524	0537	0537	0537	0537	0537	0537	0537	0510
430	0304	0304	0373	0373	0373	0373	0373	0373	0444
440	0404	0477	0481	0481	0481	0481	0481	0481	0444
450	0202	0310	0331	0331	0331	0331	0331	0331	0404
460	0417	0431	0437	0437	0437	0437	0437	0437	0437
470	0220	0270	0292	0292	0292	0292	0292	0292	0364
480	0371	0371	0371	0371	0371	0371	0371	0371	0371
490	0150	0239	0212	0212	0212	0212	0212	0212	0295
500	0205	0205	0205	0205	0205	0205	0205	0205	0295
510	0138	0192	0205	0205	0205	0205	0205	0205	0219
520	0219	0219	0219	0219	0219	0219	0219	0219	0219
530	0113	0159	0159	0159	0159	0159	0159	0159	0159
540	0119	0159	0159	0159	0159	0159	0159	0159	0159
550	0110	0106	0145	0145	0145	0145	0145	0145	0146
560	0146	0146	0146	0146	0146	0146	0146	0146	0146
570	0506	0501	0501	0501	0501	0501	0501	0501	0146
580	0506	0501	0501	0501	0501	0501	0501	0501	0146
590	0506	0501	0501	0501	0501	0501	0501	0501	0146
600	0506	0501	0501	0501	0501	0501	0501	0501	0146
610	0506	0501	0501	0501	0501	0501	0501	0501	0146
620	0506	0501	0501	0501	0501	0501	0501	0501	0146
630	0506	0501	0501	0501	0501	0501	0501	0501	0146
640	0506	0501	0501	0501	0501	0501	0501	0501	0146
650	0506	0501	0501	0501	0501	0501	0501	0501	0146
660	0506	0501	0501	0501	0501	0501	0501	0501	0146
670	0506	0501	0501	0501	0501	0501	0501	0501	0146
680	0506	0501	0501	0501	0501	0501	0501	0501	0146
690	0506	0501	0501	0501	0501	0501	0501	0501	0146
700	0506	0501	0501	0501	0501	0501	0501	0501	0146
710	0506	0501	0501	0501	0501	0501	0501	0501	0146
720	0506	0501	0501	0501	0501	0501	0501	0501	0146
730	0506	0501	0501	0501	0501	0501	0501	0501	0146
740	0506	0501	0501	0501	0501	0501	0501	0501	0146
750	0506	0501	0501	0501	0501	0501	0501	0501	0146
760	0506	0501	0501	0501	0501	0501	0501	0501	0146
770	0506	0501	0501	0501	0501	0501	0501	0501	0146
780	0506	0501	0501	0501	0501	0501	0501	0501	0146
790	0506	0501	0501	0501	0501	0501	0501	0501	0146
800	0506	0501	0501	0501	0501	0501	0501	0501	0146
810	0506	0501	0501	0501	0501	0501	0501	0501	0146
820	0506	0501	0501	0501	0501	0501	0501	0501	0146
830	0506	0501	0501	0501	0501	0501	0501	0501	0146
840	0506	0501	0501	0501	0501	0501	0501	0501	0146
850	0506	0501	0501	0501	0501	0501	0501	0501	0146
860	0506	0501	0501	0501	0501	0501	0501	0501	0146
870	0506	0501	0501	0501	0501	0501	0501	0501	0146
880	0506	0501	0501	0501	0501	0501	0501	0501	0146
890	0506	0501	0501	0501	0501	0501	0501	0501	0146
900	0506	0501	0501	0501	0501	0501	0501	0501	0146
910	0506	0501	0501	0501	0501	0501	0501	0501	0146
920	0506	0501	0501	0501	0501	0501	0501	0501	0146
930	0506	0501	0501	0501	0501	0501	0501	0501	0146
940	0506	0501	0501	0501	0501	0501	0501	0501	0146
950	0506	0501	0501	0501	0501	0501	0501	0501	0146
960	0506	0501	0501	0501	0501	0501	0501	0501	0146
970	0506	0501	0501	0501	0501	0501	0501	0501	0146
980	0506	0501	0501	0501	0501	0501	0501	0501	0146
990	0506	0501	0501	0501	0501	0501	0501	0501	0146

FOR 06 MONTHS

130	1614	1640	1632	1682	1682	1724	1724	1735
140	1750	1946	1915	2005	2005	2245	2245	1724
151	1953	1997	1532	1932	1532	1546	1546	1724
162	1724	1795	1974	1916	2024	2024	2024	1425
170	1287	1290	1291	1290	1317	1347	1425	1425
189	1497	1042	1760	1750	1760	1760	1750	1045
190	1895	1553	1043	1043	1046	1046	1046	1045
210	1783	1240	1313	1347	1425	1540	1540	1045
219	0710	0841	0899	0898	0898	0920	0920	0976
229	1041	1113	1103	1218	1261	1261	1251	0941
230	0004	0734	0784	0784	0788	0830	0830	0941
240	0303	1025	1055	1055	1055	1055	1055	0890
250	0501	0627	0671	0742	0777	0805	0848	0890
260	0312	0912	0912	0912	0912	0912	0912	1577
270	0450	0534	0641	0662	0677	0677	0677	1577
280	0677	0677	0677	0677	0677	0677	0677	1577
290	0306	0429	0534	0534	0534	0534	0534	1534
300	0534	0534	0534	0534	0534	0534	0534	1534
310	0571	0513	0613	0627	0655	0684	0713	0763
320	0705	0827	0843	0875	0915	0976	0976	0977
330	0519	0503	0563	0570	0577	0519	0655	0677
340	0698	0719	0742	0770	0798	0827	0827	0606
350	0415	0492	0492	0516	0524	0553	0534	0556
360	0527	0649	0677	0691	0719	0719	0719	0556
370	0375	0435	0435	0471	0492	0513	0534	0556
380	0577	0598	0620	0641	0641	0641	0641	0664
390	0900	0900	0900	0900	0900	0900	0900	0664
400	0075	0691	0710	0724	0772	0836	0836	0575
410	0000	0000	0000	0000	0000	0000	0000	0575
420	0590	0600	0513	0535	0572	0740	0740	0575
430	0342	0415	0425	0440	0455	0470	0435	0500
440	0523	0537	0552	0565	0597	0572	0572	0500
450	0250	0259	0373	0373	0413	0413	0433	0455
460	0470	0485	0493	0493	0493	0493	0493	0455
470	0255	0316	0323	0363	0366	0380	0336	0410
480	0418	0418	0418	0418	0418	0418	0418	0410

FOR 12 MONTHS

450	0214	0269	0283	0306	0321	0321	0321	0321	0321
500	0321	0321	0321	0321	0321	0321	0321	0321	0321
510	0111	0215	0231	0246	0246	0246	0246	0246	0246
520	0246	0246	0246	0246	0246	0246	0246	0246	0246
530	0128	0173	0173	0173	0173	0173	0173	0173	0173
540	0173	0173	0173	0173	0173	0173	0173	0173	0173
550	0123	0104	0104	0104	0104	0104	0104	0104	0104
560	0104	0104	0104	0104	0104	0104	0104	0104	0104
100	46	71	101	12	PAY	TABLE	EFFECTIVE	JAN	70
110	1317	2020	2020	2020	2103	2103	2103	2265	
120	2205	2427	2427	2100	1509	2740	2750		
130	1734	1780	1813	1814	1818	1804	1850	1941	
140	1941	2103	2103	2205	2205	2427	2427		
150	1971	1818	1847	1847	1847	1780	1780	1864	
160	1304	1941	2025	2103	2170	2188	2158		
170	1304	1394	1394	1394	1406	1450	1541	1541	
180	1618	1781	1942	1942	1942	1942	1942		
190	0907	1063	1133	1133	1133	1133	1133	1133	
200	1171	1350	1425	1455	1541	1571	1571		
210	0773	0939	0971	0971	0971	0971	1031	1031	
220	1125	1209	1273	1317	1344	1364	1350		
230	0613	0790	1643	1843	1843	0901	0952	1017	
240	1063	1103	1143	1143	1143	1140	1140		
250	0610	0673	0724	0802	0820	0870	0917	0962	
260	0945	0965	0965	0965	0965	0986	0986		
270	0400	0507	0553	0615	0671	0731	0731	0731	
280	0731	0731	0731	0731	0731	0731	0731		
290	0416	0403	0377	0377	0377	0377	0377	0377	
300	0577	0577	0577	0577	0577	0577	0577		
310	0617	0662	0602	0679	0718	0740	0770	0820	
320	0313	0693	0917	0947	0979	1059	1059		
330	0501	0615	0603	0617	0624	0670	0708	0731	
340	0715	0775	0802	0832	0843	0893	0893		
350	0452	0532	0532	0547	0577	0609	0632	0655	
360	0570	0711	0724	0747	0777	0777	0777		
370	0415	0470	0470	0470	0572	0555	0577	0601	

363	0524	0047	0870	0893	1603	0693	0693	1718
389	0100	0000	0000	0000	0000	0000	0000	0701
400	0750	0750	0767	1782	0024	0904	0904	0904
413	0100	0000	0000	0000	0000	0000	0000	0821
420	0038	0038	0070	0080	0720	0807	0807	0807
430	0371	0443	0460	0476	0482	0508	0524	0541
440	0500	0531	0559	0600	0610	0620	0620	0620
450	0310	0307	0403	0420	0430	0452	0452	0452
460	0500	0520	0533	0533	0533	0533	0533	0533
470	0270	0330	0350	0371	0390	0412	0428	0443
480	0452	0452	0452	0452	0452	0452	0452	0452
490	0232	0291	0300	0331	0337	0347	0347	0347
500	0307	0347	0347	0347	0347	0347	0347	0347
510	0100	0234	0250	0250	0250	0250	0250	0250
520	0200	0250	0250	0250	0250	0250	0250	0250
530	0130	0130	0130	0130	0130	0130	0130	0130
540	0150	0190	0190	0190	0190	0190	0190	0190
550	0133	0177	0177	0177	0177	0177	0177	0177
560	0177	0177	0177	0177	0177	0177	0177	0177
570	0177	0177	0177	0177	0177	0177	0177	0177
580	0177	0177	0177	0177	0177	0177	0177	0177
590	0177	0177	0177	0177	0177	0177	0177	0177
600	0177	0177	0177	0177	0177	0177	0177	0177
610	0177	0177	0177	0177	0177	0177	0177	0177
620	0177	0177	0177	0177	0177	0177	0177	0177
630	0177	0177	0177	0177	0177	0177	0177	0177
640	0177	0177	0177	0177	0177	0177	0177	0177
650	0177	0177	0177	0177	0177	0177	0177	0177
660	0177	0177	0177	0177	0177	0177	0177	0177
670	0177	0177	0177	0177	0177	0177	0177	0177
680	0177	0177	0177	0177	0177	0177	0177	0177
690	0177	0177	0177	0177	0177	0177	0177	0177
700	0177	0177	0177	0177	0177	0177	0177	0177
710	0177	0177	0177	0177	0177	0177	0177	0177
720	0177	0177	0177	0177	0177	0177	0177	0177
730	0177	0177	0177	0177	0177	0177	0177	0177
740	0177	0177	0177	0177	0177	0177	0177	0177
750	0177	0177	0177	0177	0177	0177	0177	0177
760	0177	0177	0177	0177	0177	0177	0177	0177
770	0177	0177	0177	0177	0177	0177	0177	0177
780	0177	0177	0177	0177	0177	0177	0177	0177
790	0177	0177	0177	0177	0177	0177	0177	0177
800	0177	0177	0177	0177	0177	0177	0177	0177
810	0177	0177	0177	0177	0177	0177	0177	0177
820	0177	0177	0177	0177	0177	0177	0177	0177
830	0177	0177	0177	0177	0177	0177	0177	0177
840	0177	0177	0177	0177	0177	0177	0177	0177
850	0177	0177	0177	0177	0177	0177	0177	0177
860	0177	0177	0177	0177	0177	0177	0177	0177
870	0177	0177	0177	0177	0177	0177	0177	0177
880	0177	0177	0177	0177	0177	0177	0177	0177
890	0177	0177	0177	0177	0177	0177	0177	0177
900	0177	0177	0177	0177	0177	0177	0177	0177
910	0177	0177	0177	0177	0177	0177	0177	0177
920	0177	0177	0177	0177	0177	0177	0177	0177
930	0177	0177	0177	0177	0177	0177	0177	0177
940	0177	0177	0177	0177	0177	0177	0177	0177
950	0177	0177	0177	0177	0177	0177	0177	0177
960	0177	0177	0177	0177	0177	0177	0177	0177
970	0177	0177	0177	0177	0177	0177	0177	0177
980	0177	0177	0177	0177	0177	0177	0177	0177
990	0177	0177	0177	0177	0177	0177	0177	0177
1000	0177	0177	0177	0177	0177	0177	0177	0177

276	0525	0623	0749	0773	0789	0799	0799	1709
280	0705	0789	0789	0789	0789	0789	0789	1709
290	0751	0823	0823	0823	0823	0823	0823	1623
300	0823	0823	0823	0823	0823	0823	0823	0823
310	0806	0715	0715	0731	0764	0798	0831	0890
320	0931	0889	0822	0855	0856	0856	0856	1138
330	0906	0857	0827	0857	0857	0857	0857	0857
340	0814	0839	0853	0859	0871	0864	0864	0864
350	0830	0874	0874	0890	0890	0890	0890	0890
360	0731	0757	0761	0806	0839	0839	0839	0839
370	0742	0807	0807	0849	0854	0854	0854	0854
380	0873	0898	0922	0939	0939	0939	0939	0939
390	0807	0806	0806	0806	0806	0806	0806	0806
400	0807	0807	0807	0807	0807	0807	0807	0807
410	0807	0807	0807	0807	0807	0807	0807	0807
420	0807	0807	0807	0807	0807	0807	0807	0807
430	0807	0807	0807	0807	0807	0807	0807	0807
440	0807	0807	0807	0807	0807	0807	0807	0807
450	0807	0807	0807	0807	0807	0807	0807	0807
460	0807	0807	0807	0807	0807	0807	0807	0807
470	0807	0807	0807	0807	0807	0807	0807	0807
480	0807	0807	0807	0807	0807	0807	0807	0807
490	0807	0807	0807	0807	0807	0807	0807	0807
500	0807	0807	0807	0807	0807	0807	0807	0807
510	0807	0807	0807	0807	0807	0807	0807	0807
520	0807	0807	0807	0807	0807	0807	0807	0807
530	0807	0807	0807	0807	0807	0807	0807	0807
540	0807	0807	0807	0807	0807	0807	0807	0807
550	0807	0807	0807	0807	0807	0807	0807	0807
560	0807	0807	0807	0807	0807	0807	0807	0807
570	0807	0807	0807	0807	0807	0807	0807	0807
580	0807	0807	0807	0807	0807	0807	0807	0807
590	0807	0807	0807	0807	0807	0807	0807	0807
600	0807	0807	0807	0807	0807	0807	0807	0807
610	0807	0807	0807	0807	0807	0807	0807	0807
620	0807	0807	0807	0807	0807	0807	0807	0807
630	0807	0807	0807	0807	0807	0807	0807	0807
640	0807	0807	0807	0807	0807	0807	0807	0807
650	0807	0807	0807	0807	0807	0807	0807	0807
660	0807	0807	0807	0807	0807	0807	0807	0807
670	0807	0807	0807	0807	0807	0807	0807	0807
680	0807	0807	0807	0807	0807	0807	0807	0807
690	0807	0807	0807	0807	0807	0807	0807	0807
700	0807	0807	0807	0807	0807	0807	0807	0807
710	0807	0807	0807	0807	0807	0807	0807	0807
720	0807	0807	0807	0807	0807	0807	0807	0807
730	0807	0807	0807	0807	0807	0807	0807	0807
740	0807	0807	0807	0807	0807	0807	0807	0807
750	0807	0807	0807	0807	0807	0807	0807	0807
760	0807	0807	0807	0807	0807	0807	0807	0807
770	0807	0807	0807	0807	0807	0807	0807	0807
780	0807	0807	0807	0807	0807	0807	0807	0807
790	0807	0807	0807	0807	0807	0807	0807	0807
800	0807	0807	0807	0807	0807	0807	0807	0807
810	0807	0807	0807	0807	0807	0807	0807	0807
820	0807	0807	0807	0807	0807	0807	0807	0807
830	0807	0807	0807	0807	0807	0807	0807	0807
840	0807	0807	0807	0807	0807	0807	0807	0807
850	0807	0807	0807	0807	0807	0807	0807	0807
860	0807	0807	0807	0807	0807	0807	0807	0807
870	0807	0807	0807	0807	0807	0807	0807	0807
880	0807	0807	0807	0807	0807	0807	0807	0807
890	0807	0807	0807	0807	0807	0807	0807	0807
900	0807	0807	0807	0807	0807	0807	0807	0807
910	0807	0807	0807	0807	0807	0807	0807	0807
920	0807	0807	0807	0807	0807	0807	0807	0807
930	0807	0807	0807	0807	0807	0807	0807	0807
940	0807	0807	0807	0807	0807	0807	0807	0807
950	0807	0807	0807	0807	0807	0807	0807	0807
960	0807	0807	0807	0807	0807	0807	0807	0807
970	0807	0807	0807	0807	0807	0807	0807	0807
980	0807	0807	0807	0807	0807	0807	0807	0807
990	0807	0807	0807	0807	0807	0807	0807	0807
1000	0807	0807	0807	0807	0807	0807	0807	0807

FOR 02 MONTHS

100	2011	2090	2185	2277	2301	2351	2351	1603
170	1416	1504	1504	1504	1571	1571	1623	1603
180	1706	1821	1853	1853	2013	2013	2053	1222
190	1804	1147	1222	1222	1222	1222	1222	1222
200	1203	1403	1333	1333	1612	1803	1803	1138
210	1835	0901	1043	1043	1048	1048	1031	1138
220	1214	1350	1380	1421	1421	1421	1421	1097
230	0714	0857	0914	0914	0971	0972	0972	1097
240	1147	1107	1231	1231	1270	1230	1230	1038
250	0504	0731	0781	0823	0916	0939	0939	1038
260	1013	1153	1203	1253	1003	1003	1053	0789
270	1570	0623	0603	0773	0789	0789	0739	0789
280	0709	0789	0789	0789	0789	0789	0739	0789
290	1455	0115	0023	0023	0623	0623	0623	0623
300	0023	0023	0023	0023	0623	0623	0623	0623
310	0016	0715	0715	0731	0704	0758	0931	0890
320	0331	0539	1022	1066	1066	1138	1138	0790
330	0006	0027	0517	0657	0673	0722	0754	0790
340	0519	0839	0856	0893	0931	0964	0956	0707
350	0030	0074	0074	0074	0623	0657	0632	0707
360	0731	0757	0781	0806	0839	0839	0839	0648
370	0002	0107	0217	0217	0574	0699	0623	0648
380	0677	0698	0722	0748	0778	0748	0748	0774
390	0001	0019	0020	0039	0070	0090	0090	0774
400	0792	0810	0821	0844	0880	0975	0975	0670
410	0000	0000	0000	0000	0000	0035	0653	0670
420	0003	0700	0722	0740	0774	0871	0871	0584
430	0043	0175	0495	0514	0531	0548	0536	0584
440	0011	0027	0504	0513	0597	0784	0736	0531
450	0387	0410	0435	0453	0479	0488	0505	0531
460	0548	0555	0575	0575	0575	0575	0575	0531
470	0330	0350	0364	0381	0427	0444	0452	0471
480	0000	0033	0483	0483	0483	0488	0488	0405
490	0323	0341	0361	0369	0405	0405	0405	0405
500	0405	0405	0405	0405	0405	0405	0405	0405
510	0311	0320	0341	0359	0355	0355	0355	1355

LE EFFECTIVE JAN 72

211

[illegible]

[illegible]

74 70 OCT 1951

215

3400	1781	0633	3823	9837	7893	1004	1326
4000	0491	0539	3557	3861	0503	0625	3647
4600	0702	0721	1730	0735	0776	0730	0736
4700	0431	0469	0492	3513	0517	0559	0532
4800	0527	0629	0623	1025	0625	0629	0625
4900	1414	0437	0463	3499	0519	0519	3519
5000	0515	0513	0519	0519	0519	0519	0519
5100	0355	0425	0437	1054	0414	0454	0454
5200	0454	1454	0454	3454	0454	0454	0454
5300	0383	0383	0383	0383	0383	0383	0383
5400	0383	0383	0383	1383	0383	0383	0383
5500	0383	0383	0383	0383	0383	0383	0383
5600	0344	0344	0344	0344	0344	0344	0344
5700	0344	0344	0344	0344	0344	0344	0344
1000	46	75	1091	12 DAY	1715	EFFE	CTIVE
1100	2041	2041	2941	2041	2041	3054	3150
1200	3150	3150	3150	3150	3150	3150	3150
1300	2518	2584	2639	2039	2639	2706	2818
1400	2818	3054	3054	3150	3150	3150	3150
1500	2260	2349	2403	2403	2403	2534	2706
1600	2706	2818	2941	3054	3150	3150	3150
1700	1955	2524	2024	2024	2114	2114	2237
1800	2349	2584	2706	2706	2706	2762	2762
1900	1405	1549	1644	1644	1644	1644	1644
2000	1706	1955	2070	2114	2237	2420	2420
2100	1123	1319	1410	1410	1410	1410	1454
2200	1533	1755	1857	1910	1910	1980	1980
2300	0947	1153	1230	1230	1230	1300	1397
2400	1544	1611	1645	1645	1645	1645	1645
2500	0600	0584	1022	1106	1219	1263	1331
2600	1431	1431	1431	1431	1431	1431	1431
2700	0767	0630	1067	1067	1067	1062	1062
2800	1102	1062	1062	1062	1062	1062	1062
2900	0600	0693	1033	0438	0838	0838	0838
3000	0638	0634	0623	0630	0630	0630	0638
3100	0300	0552	0952	0934	1029	1074	1119
3200	1253	1297	1331	1375	1421	1531	1531

330	0815	088	0884	0895	0906	0912	0920	1029	1062
340	1050	1129	1164	1208	1253	1297	1297	1297	1297
350	1714	0772	0794	0838	0884	0917	0917	0917	0951
360	0964	1018	1052	1085	1129	1129	1129	1129	1129
370	0595	0652	0682	0739	0772	0806	0836	0836	0873
380	0916	0939	0972	1007	1037	1067	1097	1097	1097
390	0301	0309	0319	0330	0340	0350	0359	0359	0359
400	1065	1090	1114	1136	1156	1172	1172	1172	1172
410	0800	0831	0861	0890	0919	0948	0977	0977	0977
420	0920	0950	0972	0996	1024	1054	1082	1082	1082
430	0597	0644	0683	0721	0758	0795	0832	0832	0832
440	0920	0943	0967	0990	1013	1036	1059	1059	1059
450	0515	0562	0605	0640	0673	0706	0739	0739	0739
460	0737	0761	0773	0773	0773	0773	0773	0773	0773
470	0452	0493	0516	0533	0554	0574	0597	0597	0597
480	0516	0556	0585	0615	0646	0676	0706	0706	0706
490	0438	0459	0480	0504	0524	0545	0565	0565	0565
500	0545	0565	0585	0605	0625	0645	0665	0665	0665
510	0418	0441	0453	0477	0497	0517	0537	0537	0537
520	0477	0477	0477	0477	0477	0477	0477	0477	0477
530	0403	0403	0403	0403	0403	0403	0403	0403	0403
540	0403	0403	0403	0403	0403	0403	0403	0403	0403
550	0351	0351	0351	0351	0351	0351	0351	0351	0351
560	0351	0351	0351	0351	0351	0351	0351	0351	0351
570	0351	0351	0351	0351	0351	0351	0351	0351	0351
580	0351	0351	0351	0351	0351	0351	0351	0351	0351
590	0351	0351	0351	0351	0351	0351	0351	0351	0351
600	0351	0351	0351	0351	0351	0351	0351	0351	0351
610	0351	0351	0351	0351	0351	0351	0351	0351	0351
620	0351	0351	0351	0351	0351	0351	0351	0351	0351
630	0351	0351	0351	0351	0351	0351	0351	0351	0351
640	0351	0351	0351	0351	0351	0351	0351	0351	0351
650	0351	0351	0351	0351	0351	0351	0351	0351	0351
660	0351	0351	0351	0351	0351	0351	0351	0351	0351
670	0351	0351	0351	0351	0351	0351	0351	0351	0351
680	0351	0351	0351	0351	0351	0351	0351	0351	0351
690	0351	0351	0351	0351	0351	0351	0351	0351	0351
700	0351	0351	0351	0351	0351	0351	0351	0351	0351
710	0351	0351	0351	0351	0351	0351	0351	0351	0351
720	0351	0351	0351	0351	0351	0351	0351	0351	0351
730	0351	0351	0351	0351	0351	0351	0351	0351	0351
740	0351	0351	0351	0351	0351	0351	0351	0351	0351
750	0351	0351	0351	0351	0351	0351	0351	0351	0351
760	0351	0351	0351	0351	0351	0351	0351	0351	0351
770	0351	0351	0351	0351	0351	0351	0351	0351	0351
780	0351	0351	0351	0351	0351	0351	0351	0351	0351
790	0351	0351	0351	0351	0351	0351	0351	0351	0351
800	0351	0351	0351	0351	0351	0351	0351	0351	0351
810	0351	0351	0351	0351	0351	0351	0351	0351	0351
820	0351	0351	0351	0351	0351	0351	0351	0351	0351
830	0351	0351	0351	0351	0351	0351	0351	0351	0351
840	0351	0351	0351	0351	0351	0351	0351	0351	0351
850	0351	0351	0351	0351	0351	0351	0351	0351	0351
860	0351	0351	0351	0351	0351	0351	0351	0351	0351
870	0351	0351	0351	0351	0351	0351	0351	0351	0351
880	0351	0351	0351	0351	0351	0351	0351	0351	0351
890	0351	0351	0351	0351	0351	0351	0351	0351	0351
900	0351	0351	0351	0351	0351	0351	0351	0351	0351
910	0351	0351	0351	0351	0351	0351	0351	0351	0351
920	0351	0351	0351	0351	0351	0351	0351	0351	0351
930	0351	0351	0351	0351	0351	0351	0351	0351	0351
940	0351	0351	0351	0351	0351	0351	0351	0351	0351
950	0351	0351	0351	0351	0351	0351	0351	0351	0351
960	0351	0351	0351	0351	0351	0351	0351	0351	0351
970	0351	0351	0351	0351	0351	0351	0351	0351	0351
980	0351	0351	0351	0351	0351	0351	0351	0351	0351
990	0351	0351	0351	0351	0351	0351	0351	0351	0351
1000	0351	0351	0351	0351	0351	0351	0351	0351	0351

FOR 12 MONTHS

220	1552	1620	1323	1042	2051	2051	
230	0901	1157	1275	1275	1356	1448	1529
240	1599	1059	1715	1715	1715	1715	
250	0912	1019	1090	1210	1203	1309	1448
260	1083	1083	1483	1483	1483	1483	
270	1755	0059	1043	1073	1171	1171	1101
280	1101	1101	1101	1101	1101	1101	
290	0050	0719	0603	0609	0809	0809	0669
300	0909	1009	0819	0609	0809	0809	
310	0929	1097	0997	1019	1056	1113	1241
320	1299	1347	1373	1273	1072	1586	1538
330	0045	0910	0915	0027	0078	1007	1358
340	1130	1169	1206	1202	1208	1344	1344
350	0740	1050	0800	0823	0809	0916	0951
360	1019	1057	1091	1124	1119	1159	1159
370	0510	0707	0707	0709	0800	0835	0839
380	0938	0975	1007	1003	1073	1043	1043
390	0101	0000	0007	0003	0100	0000	1079
400	1104	1130	1154	1177	1279	1259	1350
410	0009	0001	0001	0000	0000	0000	0910
420	0909	0907	1007	1002	1002	1214	1214
430	0010	0007	0092	0715	0711	0784	0784
440	0010	0074	0093	0010	0071	1092	1132
450	0034	0002	0007	0032	0056	0080	0704
460	0704	0703	0801	0801	0801	0801	0801
470	1009	0510	0535	0508	0505	0519	0504
480	0500	0600	0600	0600	0600	0600	0600
490	0411	0710	0504	0503	0504	0504	0504
500	0504	0504	0504	0504	0504	0504	0504
510	0433	0407	0475	0494	0404	0494	0494
520	0494	0494	0494	0494	0494	0494	0494
530	0417	0417	0417	0417	0417	0417	0417
540	0417	0417	0417	0417	0417	0417	0417
550	0374	0374	0374	0374	0374	0374	0374
560	0374	0374	0374	0374	0374	0374	0374
570	0374	0374	0374	0374	0374	0374	0374

110	3126	2230	3235	3235	3276	3350	3350	3516
120	3010	3077	3877	4135	4176	4394	4394	
130	2771	2844	2904	2904	2904	2976	2976	3101
140	3141	3351	3361	3018	3018	3077	3077	
150	2510	2581	2500	2000	2000	2044	2044	2578
160	2378	3101	3235	3300	3405	3450	3450	
170	2805	2227	2227	2227	2327	2327	2452	2462
180	1505	1844	3033	3070	3070	3039	3070	
190	1565	1035	1813	1039	1813	1009	1809	1809
200	1971	2167	2273	2327	2402	2470	2370	
210	1230	1052	1572	1572	1572	1599	1599	1885
220	1797	1932	2043	2175	2175	2179	2179	
230	1142	1250	1334	1334	1370	1440	1530	1824
240	1999	1772	1922	1922	1822	1822	1922	
250	0918	1883	1197	1200	1312	1393	1455	1538
260	1575	1975	1575	1575	1575	1575	1575	
270	0046	0022	1113	1113	1119	1169	1169	1169
280	1149	1169	1103	1119	1119	1159	1159	
290	1733	1703	0922	0922	0922	0922	0922	0922
300	1922	1922	0922	0922	0922	0922	0922	
310	1900	1050	1053	1193	1172	1162	1231	1317
320	1378	1427	1445	1113	1003	1005	1035	
330	0657	0973	0973	0900	0907	1070	1132	1169
340	1200	1202	1207	1370	1378	1427	1427	
350	1785	1043	1043	1070	1070	0972	1010	1046
360	1103	1121	1127	1170	1272	1242	1242	
370	0044	0707	0751	0013	0009	0806	0922	0960
380	0990	1030	1073	1119	1170	1108	1138	
390	0000	0000	0000	0000	0000	0000	1121	1146
400	1172	1193	1225	1200	1316	1443	1443	
410	0001	0001	0001	0000	0000	0941	0957	0992
420	1019	1000	1003	1095	1170	1289	1289	
430	0557	1709	1735	0761	0767	0812	0937	0954
440	0913	0928	0904	0907	0972	1150	1150	
450	0007	1013	1040	0971	1006	0722	0746	1707
460	0912	0837	0851	0900	0850	0850	0850	

360 11.2 1192 1221 1270 1310 1310 1310 1310
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 380 1000 1030 1123 1169 1179 1159 1159 1159
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Vita

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This study looks at the basic elements of the Survivor Benefit Plan, methods of analysis, and private insurance plans as alternatives.

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